AMERICAN AGRICULTURIST,

FOR THE

Farm, Garden, and Household.

"AGRICULTURE IS THE MOST HEALTHFUL, MOST USEFUL, AND MOST NOBLE EMPLOYMENT OF MAN."—Washington.

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Suggestions and Notes for the Month.

In no month of the year, are the poetry and prose of farm life more mingled, than in the present. Earth, air, and sky, are full of inspiration. Each element seems striving to express the joyous fullness of life which Spring only awakened. The fervid glances of the sun are answered by blushing fields of beauty upon the earth. The morning and evening clouds seem to vie with the plains beneath in producing exquisite scenes for the eye of the artist. Light-footed zephyrs dance along the plains, their tresses laden with perfumes showered from orchard and forest. Joyous notes echo from the flocks and herds upon the hillside, and a perpetual chorus of song from the blissful birds reminds the hearer of heavenly symphonies. It is a striking fact that in nature the period of the greatest activity is accompanied with the highest display of beauty. When her most important works are to be executed, her servants don their holiday attire. Those gorgeous clouds are her industrious water-carriers; the refreshing breezes that sweep across the fields, convey nutriment to the myriads of leaves that the genial sun has called forth; and these, so radiant in their livery of green, are each rapidly elaborating the nourishment that shall add to the parent growth. The bees that so gaily hum from flower to flower, are not only gathering provision for their own sustenance, but distributing the pollen by which the flowers are to be fertilized, and without which, in large measure, their beauty would be fruitless. The birds, in addition to filling the air with sweet sounds, are, with watchful eyes, guarding the fields from depredations which no human scrutiny or skill could avert. On every tree, shrub, and flower, voracious insects are preying, that the superabundance of vegetation may not itself become noxious; but, unchecked by the birds, these otherwise useful little creatures become a most intolerable pest. Thus, in every field, labor and the signs of rejoicing go hand in hand. Surely this is the visible testimony of the Creator to His estimate of labor; it is His proclamation of the design that happiness shall be found, not in passive reception of outward appliances, but in the active use of the faculties He has bestowed. Surely as we rise in the scale of being, the enjoyments of toil should be hightened. If the birds sing while laboriously gathering food for their young, shall not man be joyful while pursuing his nobler avocations? But the picture has its prosaic background. It is delightful to sing of pleasant fields, but not so enlivening to hoe corn. The flowers are charming to look upon, but the cultivator finds little delight in them when, on the thistle and the daisy, they require vigorous work for their extirpation. Much of pleasure will be found in the poetry of the month, and the more its perception is cultivated, the more may the husbandman be cheered in his toil; but he finds that stern purpose is needed to hold him to the heavy task of field labor. He may be encouraged by the thought that his work now is only preparatory. His time of joy will come when the fields shall have been despoiled of beauty, the birds ceased their song, and the winds only sigh over the ended harvest. He should also be nerved to patient endurance by the knowledge that his end is higher than merely to change the form of outward things. By industry and its accompanying virtues he is working out a character whose development but commences here. He is sowing seeds that are to spring up, and blossom, and bear perennial fruit in a land that knows no Winter, where activity and enjoyment are co-eternal.

Work for the Farm, Household, etc.

The labors of this month will in large measure decide as to the excellence of the great staples, corn, potatoes, and other hoed crops. If the weeds be kept in check, and the soil mellow, a favorable season will do the remainder. Without good tillage, it is vain to expect more than a light crop, however propitious the weather may be. Thorough cultivation will go far to make up for what may be lacking in weather, and also in the richness of soil. A good hoeing is equivalent in its effects to no small amount of manure. As far as practicable substitute horse power for hand labor. A good cultivating instrument will save one or more hired hands, and thus more than pay for itself in these times of scarcity of men.

Barns and Sheds will soon be needed for hay and grain crops. Clear out all rubbish, have floors and scaffold-poles in order, and everything in readiness before the pressing work of haying and harvesting commences. Much labor may be saved by properly grading the grounds in front of the entrances where loads are to be drawn in. We have seen a large hay crop taken in where each load must be jerked over a rise of several inches at the door-sill. Where large quantities of hay are to be stored, it is well to provide board tubes with holes pierced in the sides, to be set upright in the mows, to secure good ventilation.

Barn-yards.—Cattle-droppings deposited during the Summer should not be allowed to dry out and partially waste. Cover the ground with muck, and plow it over once a month, or oftener, to incorporate it with the manure. Now while the yards are nearly empty, arrange for draining. Convey wash from the manure to adjoining fields, where it should be spread by small channels, to prevent too rank growth.

Beans.—Plant where corn has failed, and in orchards needing tillage. Read article on p. 177.

Bees.—This is an important month with them. For full directions, see "Apiary" on page 164.

Beets.—Sow mangel-wurzel and sugar varieties for feeding next Winter, if not already done. Read "Try a Few Roots," on page 177.

Butter made this month is usually considered the best produced during the year. Pasture is fresh and abundant, cows have regained their strength, and with right management everything is favorable to an abundant flow of rich milk. A little painstaking in the dairy will make a large difference in the cash returns. For large dairying a building devoted to the purpose is indispensable. It will greatly facilitate operations to have spring water in or near the premises. The temperature of the milk and cream should be kept uniform at about 55°. Observe the utmost cleanliness in every department, Vessels for milk or cream should be scalded immediately after use, thoroughly dried, and well aired. Keep tin utensils bright; they are preferable to wood, for receiving milk. See "Which are the Best Milk-Pans?" on page 181. New tubs should be scalded with buttermilk before using, to remove the taste of the wood. Have all vessels for packing and marketing neatly painted, or scoured bright, and plainly marked with the owner's name. Butter made this month may, with proper care, be kept until Winter, when much better prices can be realized. See p. 181.

Cabbages for late crops may be planted out through the entire month. See Calendar for last month, and also page 172, this number.

Calves may be gradually induced to drink sour milk, and also oatmeal and milk or water, by adding a little at a time to their feed. This, with good sweet pasture, will keep them thriving. A calf well cared for during the first year or two, will be every way superior to an animal neglected at this important season of growth.

Carrots.—Although late, a fair crop may be realized during a favorable season, by sowing early this month. Thin to six inches apart, and keep

well hoed. The work may be much facilitated by a carrot-weeder worked by horse power, or if hand labor be employed, by a broad-bladed hoe constructed especially for the purpose.

Cattle.—Keep working cattle in good condition through the season, by feeding grain as needed, and allowing plentiful pasture. Do not allow them to run in the road, away from your own premises.

Corn.—Owing to the late season, much will probably remain to be planted early this month. The R. I. Premium and Improved King Philip are quick-maturing sorts, suitable for late planting. An early growth may be hastened by dropping ashes, superphosphate, or guano, in the hill. These should be mixed and covered with soil; the seed would be injured by contact with them. Soaking and tarring the seed, and drying with lime or plaster, will also hasten germination, and aid in repelling birds and insects. From its first appearance above ground, corn should be kept free from weeds, and the soil loose. Leave not more than four stalks to the hill, and replant all missing hills. A top-dressing of ashes and plaster upon the hills, and guano scattered between the rows and plowed in, will be of service in feeding the crop, especially upon light soils. Corn is a gross feeder, and worn-out soil can scarcely be too highly manured.

Cotton.—Cultivate as directed above for corn.

Grain-Fields.—Mark the earliest and best portions to be harvested separately for seed, and take out weeds by hand before the grain is headed out. In Southern localities cutting may commence before the close of the month. Wheat and rye are ripe enough for harvest, when the berry is just out of the milk, and firm enough to bear moderate pressure of the thumb-nail without breaking.

Haying is too often delayed until the grass is over-ripe. Cut grass and clover when just passing out of bloom. If left later, much of its nourishing substance is converted into woody fibre of little value for feeding. Mowing machines, horse-rakes, and horse pitchforks, will be of great service during the present year of scarce help. They will pay on all farms where there is much grass to cut. Hay caps will in most instances pay for themselves in a single season. They not only save much damage from rains, but by their use grass can be cured without deterioration from dew, and kept uninjured until hauling can be conveniently attended to. A good barometer will also be of great service in determining when it is safe to cut largely.

Horses.—Give feed according to amount of work required. It is poor economy to keep a hard-working horse on grass. Mares with young foals do best upon green feed, with an allowance of oats.

Manure-making is in order at all seasons. Keep the pigs at work composting. Pile up cattle-droppings in the yard and cover them with muck, or spread plenty of muck in enclosures, to be occasionally turned over with the plow. Add all weeds and refuse from the garden and the vicinity of the dwelling to the compost heap. Arrange the privy so that its deposits can be made available. When there is opportunity, dig out muck from swamps, to be dried during the season and carted to the barn-yard in Autumn.

Millet sown any time before the middle of this month will yield a supply of forage for feeding green in August, or it may be cured for winter use.

Pastures.—Follow instructions in May Calendar.

Peas sown the first of June will yield excellent food for swine, to be fed green with the straw, or ripened, and fed alone or ground with oats.

Potatoes.—Keep well hoed until blossoming. Hill moderately if at all. High hilling induces the setting of additional tubers along the stem, which yield only "small potatoes." Top-dress liberally with ashes and plaster, or with lime alone.

Poultry.—Keep them in the poultry-yard until after noon, that they may deposit their eggs in the appropriate place. Scattered hens' nests are a premium to skunks and other prowlers. Allow none to sit after the middle of this month. Allow young chickens access to the garden and fruit-yard, to destroy insects. Cleanse and whitewash their apartments frequently. Liquid manure made from their droppings is an excellent application for vines and other plants in the garden.

Rutabagas and Swedish Turnips should be got in during the latter part of the month. Read the article "Try a few Roots," given on page 177.

Sheep and Lambs.—Wash, if it must be done, as soon as the weather admits. Read article on this subject on page 170. Trim off all tag-locks and filth before shearing. Mark each ewe plainly, immediately after removing the fleece, and designate superior ewes to be retained as breeders. Dock and castrate lambs if not already done, and guard against the fly by smearing the wounds with tar. See "Cure of Foot-Rot," page 171, this number.

Sorghum for forage may be drilled in or sown broadcast any time this month. Cultivate like corn.

Sugar Beets and Mangels.—See article on p. 177.

Swine.—Keep them growing with plenty of sour milk, and a little grain or bran. Allow them the range of the orchard, which they will cultivate sufficiently, and greatly benefit by destroying grubs and insects in unsound fruit as it falls.

Tobacco.—Transplant about the middle of the month, according to season and locality. For full directions see Prize Article on page 108, (April number;) also, the work on Tobacco Culture published at this office, as noticed in the advertisements.

Tools.—Save hired help by using the best implements—those worked by horse power, as far as practicable. Provide all the necessary utensils before commencing the haying and harvesting.

Weeds need only neglect to thrive vigorously.

Orchard and Nursery.

The backwardness of the Spring has prolonged the season of filling orders much beyond the usual time, but with the exception of sending out evergreens, the business is well over, and the nurseryman can give his attention to the remaining stock. Nursery rows will need the plow or cultivator to be run through them and the hand hoe should be used between trees. Good nurseries show no weeds.

Birds should be looked upon as the friends of the fruit culturist and no mischievous boys should be allowed to molest them on their nests.

Budded Stocks should be looked after, and the vigorous growth from the bud securely tied before it is broken by the winds or by its own weight. Remove all suckers that start from the stocks.

Evergreens.—As noted on page 179, may still be removed if the roots are kept from drying.

Grafts should be examined and grafting wax replaced where needed. Remove all suckers which spring from the stock; they will rob the graft.

Insects.—Especial vigilance is needed this month. We have given elsewhere articles on the curculio and scale insect. The tent and other caterpillars should be watched for, and their nests destroyed. A brush made for the purpose is very useful in removing them, or a swab wet with kerosine oil may be used. Look after them early in the morning when they will be found "at home."

Layers may be made of evergreen and deciduous shrubs and trees—a good way to get strong plants.

Manure.—Give to bearing trees a generous quantity of that well decomposed. Our best cultivators are yearly more in favor of surface manuring.

Mulch all newly planted trees, evergreens especially, by covering the ground as far as the roots extend, with straw, sawdust, chips, or other litter. This will keep the soil moist and save watering.

Pruning.—For deciduous trees, next month is preferable, though it may be done at the last of this month. Attend to young orchards, cutting out all limbs that cross and chafe others, and thin out the center. Do not cut for the sake of cutting, but with an object. Aim to leave the tree compact and well balanced with the center, not too much crowded. Do not trim off the lower limbs so as to leave a long naked trunk. Many evergreens naturally take a pleasing shape, while others need the knife. Straggling shoots should be shortened in, and all shoots which have a tendency to interfere with the main leader should be removed. Do not trim off the lower branches unless injured or diseased. The most beautiful evergreens are those which have their lower limbs spreading out near the ground.

Seedlings of nursery stock, especially evergreens, need shading. This can be done by branches laid across a rude frame, 3 or 4 feet above the bed, or by sticking leafy twigs rather thickly over the surface of the bed, to give partial shade to young plants.

Pinching should be done upon such shoots of pear and peach trees as tend to grow too long; this will induce the formation of more fruit buds.

Thinning.—Where more fruit has set than can be well grown and well ripened, thin them out freely.

Weeds.—The nursery should be kept entirely free of weeds, not only between the rows, but among the plants in the rows. *Small* weeds die easiest.

Black Knot.—Cut off infested limbs as soon as the knot appears. Free use of the knife, and burning the cuttings will eradicate this if done in time.

Kitchen Garden.

[The hints offered in these pages are adapted to the latitude of New-York and westward to and through central Iowa. The slight variation needed will be made by those residing northward or southward.]

This month brings abundant labor, but it is cheered by the rapidly increasing returns which the garden is making. The table should every day present a pleasing variety afforded by the garden. Asparagus, greens of various kinds, lettuce, cress, and radishes, and an abundance of rhubarb for sauce and pies, contribute to our present enjoyment, while the later crops are full of promise for the future. Whoever would know what good vegetables are, should have them seasoned with his own labor.

Asparagus.—The cutting should not be continued beyond the middle of the month or the roots will be injured. Hoe off weeds and let the shoots grow.

Beans.—Continue to plant. See article on page 177. Limas, if planted early this month and stimulated by liquid manure, will ripen the crop.

Beets.—The main crop should be put in by the middle of the month. Hoe, weed, and thin those planted earlier. The young beets, roots and tops, are by many persons preferred to all other greens.

Cabbage and Cauliflowers.—These, together with the rest of the tribe, such as kale, broccoli, and brussels sprouts, need similar treatment. Transplant as soon as large enough. Seed put in as late as the first of the month will in most seasons make a crop. All these plants are subject to the attacks of various insects, as mentioned in an article on page 172. Give all frequent hoeings. When there is a spare moment, hoe cabbages, etc.; it will pay, and so will a frequent persuasion of liquid manure.

Carrots.—If the backward season has prevented an earlier sowing, seed put in now will make a good crop. Hoe and thin early. Thin from four to six inches in the rows. Work this and all other root crops before the weeds get the start.

Celery. — Prepare trenches and set out early plants as directed last month, on page 146. Some cultivators raise the plant upon the surface and blanch it by earthing up after it is grown It is found that the flavor is much less delicate when treated in this way. To get stocky plants for the late crop prick out the seedlings into another bed.

Corn.—If long cold rains, such as have prevailed around New-York, have injured the early planting, loose no time in reseeding the ground. Continue to plant for succession every ten days or two weeks until the 1st of July. There is nothing better than the Stowell for the late and main crop. Manage to have a full supply to dry for winter.

Cucumbers.—These, like children, require great care until they can run alone. The striped bug is the great enemy. The protecting frames directed in last month's Calendar, the free use of ashes, plaster, or lime, and hand picking early in the morning, must be relied upon as preventives. Their rapid growth must be forwarded by frequent hoeings and the application of liquid manure during moist spells. The cucumbers will soon get out of reach of the bugs which prefer young and tender plants to old ones. It is advantageous to put in seeds at intervals of a few days, to furnish a supply of tender leaves to attract insects from the older plants. Cucumbers for pickles should be planted this month.

Egg Plants.—Plant out as soon as cool nights are over. Have the bed well enriched, hoe frequently, and give liquid manure. The crop is late at best. Take every pains to promote rapid early growth.

Endive.—Sow for Summer use, and thin out or transplant in the same manner as for lettuce.

Insects.—This is emphatically the war month in the garden, and as the insects go through the different stages of egg, larva, pupa, and perfect insect, a "change of base" will be required in our campaign. The destruction of a moth or other perfect insect prevents deposition of eggs, and the crushing of a cluster of eggs saves future trouble with the larvæ. The careful observer will see frequent opportunities for nipping trouble in the bud, and be able to keep down his insect enemies. Crushing the eggs, trapping or catching the moths nd beetles in open bottles of sweetened water, dusting the larvæ with lime or ashes, or drenching with soap-suds are the principal tactics to be practised.

Lettuce.—Plant in unoccupied places for succession. If possible put the later transplantings where they will be shaded during the heat of the day. As the season becomes hotter, lettuce runs to seed early and must then give place to endive.

Melons.—These require essentially the same care as cucumbers. Both are benefited by pinching off the leading shoot to induce the formation of side branches on which the fruit is chiefly borne.

Onions.—Forward their early growth by hoeing, weeding, and thinning to 3 or 4 inches in the rows. In some localities the maggot of the onion fly causes great injury to the crop. This Spring a small pamphlet was published by S. Truesdale & E. R. Coburn, Manchester, N. H., which for a dollar gave their specific for destroying the maggot. Being published in this way we did not feel at liberty to copy it, but we find that other agricultural papers have made free use of it, and we see no impropriety in copying the following account from one of our exchanges: "Take a good, strong barrel, and go or send to some gas-works and get the *gas-water*, which is generally thrown away. The expense per barrel, even to those who send one hundred miles for it, will not be more than three dollars, and to those who live near a city or considerable village, the expense will be very trifling. To every barrel of this gas-water, add fifteen pounds of newly slaked quick-lime, and the same proportion for less quantities. Be sure and keep it air-tight, so that it may not lose its strength. When the time has come to use it, draw out into a tub a few gallons, and add to every gallon of the liquid two gallons of pure water, and use up immediately. Do not let it remain open to the air longer than is needful. A little variation in preparing this Specific will make it either too weak, when it will not destroy the larvæ or maggots, or too strong, when it will kill the onions. In applying the above specific, first cover the rows of onions with pine sawdust—hard pine is best—no matter if the young plants are entirely covered up. Now keep a sharp look-out for the ravages of the maggot as the third leaf or blade starts up. As soon as appearances of it are seen, go through the rows, and apply the specific with a watering can. If the maggots do not disappear, apply it the second, and if necessary the third time. The liquid must go directly on to the bulb to be effectual in destroying the maggot, and the application should be made in the morning, or after a rain."—So runs the prescription; we can not vouch for its utility.

Parsnips.—Sow early this month, if the weather has prevented doing it earlier. Hoe, thin, and weed as soon as large enough. Thin freely and give plenty of room. Some of the finest of last year's crop should have been left for seed, if home grown.

Peas.—The main crop may be put in the first of the month. Put brush to all before they fall over. Try Bishop's Long Podded, or Harrison's Dwarfish, or some other good dwarf sort. Keep well hoed.

Potatoes.—Cultivate thoroughly, and give a handful of plaster to each hill, if not done before. It does not pay to cultivate late varieties in gardens.

Radishes.—Continue to sow seed in vacant spots.

Rhubarb.—The bed will now yield an abundance. If there is more than can be used, bottle or dry a supply for Winter. Cut off the flower stalks as fast as they appear, and cultivate well around the plants.

Squashes.—If the first planting has failed on account of excessive rains, put in fresh seed. Dust with ashes, etc., to keep off the striped bug; hand-pick the squash bug, and crush its eggs. See article on squash vine borer, page 173, this paper.

Sweet Potatoes.—In many localities the first of this month will be early enough to set out the plants. Ample directions are given in April and May numbers. A correspondent in Connecticut takes us to task for recommending growing them north of New-Jersey. He tried *once* and failed. We saw last year a good crop raised in Michigan, where the season is much shorter than it is in Connecticut.

Tomatoes.—Transplant for the main crop. Pinch back the rampant growers. The plants may be trained to trellises, or allowed to trail upon brush, or lie upon the ground. The fruit ripens earlier if the vines are allowed to fall over. In this case cover the ground with straw to keep the fruit clean.

Weeds.—No weed is allowed to grow in a well kept garden. Use the hoe or cultivator as often as necessary, and work close to the plants with the bayonet hoe. Let no weed perfect its seed. See the articles in another part of the present number.

Fruit Garden.

Blackberries and Raspberries.—Keep well tied up to stakes or trellises. Vines planted this season should not fruit. Allow only those shoots to grow which are needed for fruiting next year, unless it is desired to multiply them. Keep free from weeds.

Currants.—By pinching out superfluous shoots much pruning can be avoided. Water with soap-suds and keep the ground loose around them. Where there is a market for green fruit it often pays better to sell currants before they are fully ripe.

Gooseberries should receive the same care as currants. Use sulphur if mildew appears. Mulching is beneficial: the size of fruit may be increased by thinning the berries, and shading from hot sun.

Grapes.—We gave hints upon the care of young vines, in the last number. Fruiting vines need frequent care. By pinching out superfluous shoots much pruning can be anticipated. The ends of bearing shoots should be shortened to within two or three buds of the last cluster. If there is a tendency to overbearing, thin out freely. One bunch to a spur will produce finer fruit than if three are allowed to grow. Look out for caterpillars and destroy them by syringing and by hand picking.

Pears.—If the dwarfs planted this Spring had fruit buds, they should not be allowed to bear. Pinch out superfluous shoots and shorten those tending to make too much wood. Use whale oil soap or air-slaked lime to destroy slugs.

Strawberries.—Clean the beds of weeds and give a mulching to keep the fruit from being soiled by contact with the ground. Saw-dust or tan-bark will answer, but perhaps the most available mulch and one which answers as well as any, is straw cut as for feeding. In picking the fruit, only careful hands should be emyloyed, and if it is to be marketed it should be picked directly into the box or basket in which it is to be sold. Very convenient and cheap wooden fruit boxes were advertised last month.

Flower Garden and Lawn.

The heavy labor in this department is over, and the cultivator is already receiving dividends on his investment. The fresh foliage of the trees, the welcome green of the lawn, the early flowers of the garden—always more delicate and fragrant than their successors—have already gladdened the heart of the true lover of the beautiful in nature. Work however, is by no means over with, but it is now rather a pleasure than a task, for the eye is daily met by new developments of beauty.

Annuals may still be sown for late blooming. If the weather is very dry, the spot may be shaded until the seeds start. It is a good plan to lay a board over the surface, which should be removed as soon as the plants show themselves above ground.

Bulbs.—The early flowering kinds should not be lifted too early, as the bulbs should have time to ripen. When the foliage is quite dead, take them up, place in the shade where they will dry, then remove the tops and wrap in paper, taking care that each variety is properly labeled.

Carnations.—As they come into flower, the stalks should be tied up to neat stakes. The bloom of choice sorts may be prolonged by shading in midday. Propagate by layering or by putting out cuttings, which should be shaded, until well started.

Climbers.—Keep Wistarias, Bignonias, and other woody climbers within bounds. Layer if it is desirable to multiply. It is not too late to cover unsightly objects with herbaceous climbers. Maurandia, Lophospermun, and Cobæa, are suitable; but they start very slowly from the seed, and it is best to procure plants at the green-house. The finer varieties of the Morning Glory grow rapidly, and nothing can be more beautiful. Plant the different sorts separately and, if it is desired to keep seed distinct, keep the varieties from running together.

Dahlias.—Plant from the first to the middle of the month, and allow but one shoot to a root. Furnish stakes as soon as the plants require it.

Evergreens.—As noted in an article on another page, these may be set the first of this month.

Geraniums.—Plant out and cut back to prevent running up out of shape. To show well, they should be kept in a rounded and compact form.

Gladioluses.—As soon as the flower stems appear they should be tied to neat stakes.

Grass Edgings.—Use the edging knife, or a spade ground sharp, to keep the grass from spreading into the beds or walks. Keep grass closely trimmed.

Gravel-Walks.—Add gravel where needed. Keep down weeds as fast as they appear. The frequent use of the scuffle hoe, rake, and roller, will keep the walks in good order.

Hedges.—Young hedges should be cut back severely in order to get a good base. Clip the established ones as often as the new growth requires it.

Insects.—See general remarks under Kitchen Garden, and Orchard and Nursery. Syringe, or use the garden engine to throw water or soap-suds. A portable engine called the Aquarius is very convenient and effective. All applications should be made to the under as well as the upper side of the leaves.

Keeping.—By this term we mean the general attention to details, without which no grounds can be well kept. Remove all flower stalks not needed for seed, as soon as they are out of bloom. Take up all diseased plants. Rake off those flowers which drop readily. Tie up shrubs and all other plants which need it. Remove stakes no longer required. In short, do every necessary thing just at the right time, and in the best manner, and let the whole grounds bear constant testimony to the care and neatness of those having them in charge.

Lawns.—To have a perfect lawn, the grass must

be frequently cut. This is generally done with the scythe; there are machines which do the work well, but as the makers of them do not advertise, we do not know where they are to be had. The English makers advertise a number of patterns. The turf should not be allowed to grow close to the trees, but should be cut in a true and a well defined circle from 3 to 6 feet in diameter, according to the size of the tree. Keep this free of weeds.

Roses.—If restricted to one flower, probably the choice of the majority would be the rose. The Remontants and Hybrid Perpetuals are replacing the older sorts, and the running kinds are among the most popular climbers. Their beauty is not to be enjoyed without labor as they are much preyed upon by insects. The rose bugs should be shaken off early in the morning and destroyed or picked by hand, and the slugs, which soon destroy the leaves, should be treated to a solution of 1 lb. of whale oil soap, to 8 gallons of water. As soon as the Remontants have flowered, they should be headed back to induce Fall blooming. A much finer show of late flowers, if these are desired, may be secured by sacrificing the Spring bloom altogether.

Transplanting.—Many of the annuals will need to be transplanted. Give Asters, Balsams, Zinnias, and other strong growers ample room to develop themselves; single specimens of these are much finer than when grown in masses. Some of the tender plants will need shading for a few days.

Verbenas may still be put out. Peg down the branches so as to make a showy dense mass.

Water.—Except newly transplanted things, it is not often necessary to water. When it is applied, the surface soil should be removed and replaced after the watering. This will prevent the earth from caking, as it often does after surface watering.

Box Edging.—Last month was the proper time for making new and trimming old edgings, but it may be done successfully, early the present month.

Petunias.—Put out rooted plants and transplant any seedlings ready. Give plenty of room.

Heliotropes.—These are usually put out too early. They need settled weather. If the plant has drawn up, it should be cut back, to form a compact growth.

Vinca.—This old fashioned plant, known as Periwinkle, and sometimes as "Myrtle," has some very pretty varieties with variegated foliage, which seem to be hardy. They are fine for vases and baskets.

Green and Hot-Houses.

A large majority of the plants are now out of doors, either turned out into the borders, or placed where they will ornament the grounds. The tropical plants are still kept in the house, as well as other delicate things. Let whatever is left in the houses be tastefully arranged, in order to avoid the desolate and rubbishy look that most green-houses present during Summer. Give plenty of air.

Camellias should be placed where they will have partial shade. Cut back to give the plant a proper shape and see that insect pests are destroyed.

Cuttings.—A stock of Geraniums, Fuchsias, Chrysanthemums, Heliotropes, etc., should be propagated to furnish plants for winter blooming.

Grapes.—When the fruit is ripening the syringing overhead should be discontinued. Thin out the late crops. Bearing shoots should be shortened to three leaves beyond the bunches and all unnecessary shoots pinched off. Air freely and water as needed.

Inarch those hard wooded plants which do not strike readily from cuttings, nor from layers.

Oranges, Lemons, etc., may be budded this month.

Potting.—Rapidly growing plants need more pot room and should be shifted to larger sized pots. Potting soil should be always at hand. Sods from an old pasture piled up and allowed to decay make an excellent compost, this mixed with sand as may be required, will answer for the majority of plants.

Seedlings started in the green-house may be potted off or set out in the grounds as fast as ready.

Verbenas.—A stock for winter flowering should be propagated from cuttings. They strike easily.

Water.—Plants in small pots will dry out rapidly; give a supply of water as needed. See that the pots out of doors have thorough drainage, or the earth in them will remain soaked after heavy rains.

Apiary in June.

June is the swarming month in the Apiary, and at least one new colony should be expected from each old stock. A hive from which no swarm issues should be examined. If they have refused to leave for want of a queen, they will usually be found weak, when it is best to drive them out and unite them with some other stock. If the colony is strong, a new queen, or a cell containing a queen, can be introduced from some other hive. If a hive has failed to swarm from diseased brood, drive them into an empty hive to commence anew.... When two swarms issue as the same time, they are apt to settle together. To prevent this, sprinkle the bees of one hive with water, as they are about to start, which may be usually discovered by the commotion about the entrance of the hive a few moments before flying. The sprinkling will delay them until the first swarm can be hived....The first issue from a hive is usually large enough for a good colony, the second half as large, the third a quarter, consequently two of the second, or four of the third will be needed to make a swarm equal to the first. If second swarms issue late in the month it is advisable to make one strong stock by uniting two. It can be readily done within a day or two after issuing. It has been proposed to prevent the issuing of a second swarm by returning the old queen to the hive. This would only be likely to end in one of the following results: The queen might destroy all the royal cells, and go on laying eggs for three or four weeks, until another swarm had matured, when she would issue, leading out a second swarm. Or she might leave the royal cells undisturbed, and issue the next day, taking with her a small swarm. Or she might entirely disappear without being heard of again; at any rate her presence would not be likely to prevent a second swarm. Prevention can be accomplished in the movable frame hive, by cutting out the queen cells after the first swarm has issued and after the young queen has taken her place, and not allowing any such to be perfected....If a second swarm can not be well disposed of otherwise, return it to the old stock. Hive it first, carry it near the old stand, and let it remain until next morning, when all the queens but one will usually be destroyed, as well as the supernumeraries in the parent hive. Shake out the swarm, and find and secure the queen; then put a few bees at the entrance, with something on which the rest may creep there, and they will all readily enter....All new swarms should be kept shaded during the middle of the day....When bees cluster in a crowd at the outside of the hive, it is time to add boxes to receive surplus honey. If the honey is intended for home consumption, a wood box will be sufficient; for marketing, those with glass sides are preferable. They should be not more than five inches deep. The bees will work in them more readily if pieces of nice white comb are placed in the top. They can be fastened by dipping one edge in melted beeswax, and applying before it cools. Old colonies should be induced to begin in the boxes before they swarm, as the bees will be more likely to finish up the work, than to begin after swarming, especially if the colony be not very strong. Remove the boxes as soon as filled. It is not usually advisable to put on boxes immediately after hiving; the bees are likely to rear brood and store bee-bread in them. It is safe to put them on after the swarm has been hived three or four days.

TO KEEP RABBITS FROM GNAWING TREES.—John M. Lacey, Mahaska, Iowa, writes that after trying other expedients, he has for the last two years given the trees a coat of soap and sulphur, and that they have been unharmed by the rabbits. He says he saw the hint in the *Agriculturist*, and thinks we should republish it annually.

A Curculio Talk.

At the Fruit Grower's Meeting, held May 7th, the curculio question was brought up and discussed at length. Some members took the ground that the plum crop was the least valuable one, and might be left to this insect, while others complained that they could not raise apples in seasons of scarcity owing to the depredations of the curculio. Dr. Trimble, of New-Jersey, who has made this insect a study for years, thought it was cowardly to give up any of our fruits to their insect enemies. He showed a vial containing 100 curculios (bred from apples), another vial with 100 pea bugs, and a third vial having 100 grains of buckwheat, to show that the three were nearly of the same size. After pronouncing against the various solutions and powders recommended for their extinction, all of which had proved valueless to him, he said the only reliable method was to turn the hogs into the apple and plum orchards, to eat up the punctured fruit as it fell from the trees, or pick it up by hand, and destroy it. This disposes of the embryo insect, which would be troublesome the next year. But when the curculio comes, his plan is to jar it from the trees upon sheets, using care not to start the bark. The hand is sufficient to jar small trees.

He has a stout sheet made, 12 feet square, with a pole attached to one side, and a slit made in the opposite side to the centre. Two short poles are also fastened to the side where the slit is made, to stiffen the cloth. The sheet is then taken by two boys, who place it under the tree with the trunk in the centre, when a third person hits the tree two or three raps and the lads soon gather up what insects fall, and march off to the next tree. The orchard is soon gone over in this way, and in clear weather the process must be followed up each day or oftener if the insects are found at work—in cold or rainy weather they do not trouble the trees.

The Dr. has satisfactorily proved that the perfect insect or beetle emerges from the ground in August, or four to six weeks after it enters the earth in the larva state, and spends the winter in crevices of bark, under shingles, and between boards of old buildings, etc., and is all ready to attack the plum and apricot as soon as the fruit sets. This is usually about the 18th of May, and they do most of their damage between that time and the 1st of June. Hogs must do the work in the apple orchards, as large trees can not be jarred. Cherries are often stung and ripen prematurely. Birds destroy a great many of them, as they often take the early cherries as much for worms found in them, as for the cherries themselves.

If any one doubts that the curculio attacks the apple, let him gather the fallen fruit the last of June, or early in July and put it in a barrel with several inches of earth. Spread gauze or millinet over the barrel and the curculios will be secured when they attempt to leave the earth.

Strawberry Exhibition.

AT THE

Office of the American Agriculturist

The Proprietor of the *Agriculturist* invites Strawberry Growers, of this vicinity and elsewhere, to make an exhibition of their choice fruit on Thursday and Friday, June 18th and 19th.* at the *American Agriculturist* Office; and to give zest to the exhibition, he offers the following

PRIZES:

A—For best 25 approved varieties (one quart each)	$7
B—Second prize	5
C—Third prize	3
D—For best dish of market berries (two quarts of one variety.—It will be very desirable to show plants with fruit in addition)	3
E—For second and third best do. do.	$2, $1
F—For largest three berries of one variety, (weight and size both being considered)	2
G—For best New Seedling not before exhibited	5
H—For Second Best Seedling not before exhibited	2
I —For best flavored Strawberries (one quart)	2
J —For best quart of White Strawberries	2
K—For best quart Everbearing	2
L—For best quart of Bonte St. Julien	1
M—For best quart of La Constante	1
N—For best *pint* of Princesse Frederick William	1
O—For best *pint* of Empress Eugenie	1
P—For best *pint* of Marguerite	1
Q—For best quart Fillmore	1
R—For best quart Cutter	1
S—For best quart of Triomphe de Gand	1
T—For best quart Wilson's Albany	1
U—For best quart Hooker's Seedling	1
V—For best quart Hovey's Seedling	1
W—For best quart Victoria	1
X—For best quart Jenny Lind	1
Y—For best quart Vicomtesse Hericart de Thury	1

☞ No sample can compete for more than one prize.

The berries to come in competition for the premiums must be upon the tables as early as 11 A. M. on Thursday June 18th, and each specimen must be correctly labeled. The Awarding Committee will attend to their duties at 12 M.—The exhibition will not open to the public until 2 P. M. When the premiums are awarded, the *names, residence*, and *places of business* of the exhibitors will be put upon the specimens, and the prize samples designated.

No Fruit exhibited will be removed before Friday evening without special permit.

Containing a great variety of Items, including many good Hints and Suggestions which we give here in small type and condensed form, for want of space elsewhere.

The Premiums Close in July.—That there may be no disappointment, we repeat that all premiums of every kind, general and special, will close in *July*, excepting only the new Barometer Premium, and the Wringing Machine No. 2; these will continue open to August 31. For special Premiums see page 192. For general Premiums see page 155, last month. It is not at all certain that we shall offer any premiums in the future; the price of paper, etc., will decide that matter.

To Correspondents.—The paper is finished up about the 20th of each month preceding that for which it is issued, and nearly all reading matter *must* be in the hands of the printer by the 15th, or before. We have numerous letters asking us to reply in "next month's paper," which come too late for us to do so. To many of these queries the answer would be too late if published on the following month. For this reason many correspondents remain unanswered. To others we can not reply without taking time for observation and investigation; while some we can not answer at all; and still others are deferred for want of room.

The Best Barometer Cheap.—We invite particular attention to the Special Barometer premiums on page 192. The publisher is of course interested in the business part of the arrangement, for he is making an effort to raise the circulation of this journal to the highest possible point at the present time, in order to meet the very greatly increased expenses, without raising the terms. But aside from this, the barometer offered is not only an excellent one, but it is a thing that it will pay to have in every house. If it promote the better gathering of a crop in only a single instance, as it will be quite likely to do, it will pay well for its cost. The annual interest on $8 or $12, is only 50 to 80 cents a year, and even as a useful ornament, the barometer would be worth this much, to say nothing of its value as a weather guide. The terms upon which it is now offered are special, and *can not* be continued beyond the period named. The small number of subscribers required, can be readily obtained in almost every neighborhood; the paper will be well worth its cost to the subscribers, and the barometer will repay the trouble taken by those who secure them. Even should a person himself subscribe for half of the required copies and present them to his friends or neighbors, he would still secure the Barometer cheaply. We are quite sure the instrument offered will give entire satisfaction, and be found a paying investment. The safe delivery guaranteed is a special inducement.

Come to the Strawberry Show.—From present appearances the display of strawberries at the *Agriculturist* Office, June 18 and 19, will be well worth visiting. The plants have set a good crop of fruit, which with favorable weather will be ready at the appointed time, notwithstanding the late Spring. On the first day the doors will be closed to all but the Judges, until 2 o'clock P. M., after which the public will freely be invited to feast (their eyes) upon the magnificent display anticipated. See announcement on page 164. The Committee of Award was announced last month, page 136. This Committee is one of the most competent that could be selected from the whole country, and their judgment will be valuable. No one to whom there can be the least reasonable objection will act upon the Committee.

"Alkekengi."—A friend in Philadelphia has sent us a Boston circular setting forth in glowing terms his "new and beautiful fruit," under the above name.—From the description we conclude it to be the Winter Cherry (Physalis viscosa). It is a very good thing for preserves, and we have distributed the seeds freely for several years. The Physalis Alkekengi, from the South of Europe is a larger, better fruit, but unless started early in the green-house, does not always ripen. The seed, if desirable, can be obtained cheaply at the large seed stores.

"Ice Cream in Four Minutes."—So reads the advertisement of Torrey's "Arctic Freezer," and it is not far from the truth. The manufacturer brought some ready flavored cream, salt, and pounded ice to the *Agriculturist* Office in one of the hot days of May, and commenced operations against time. According to our "chronometer," in 4 minutes the cream was pretty stiff with cold; in 5 minutes it was solid; in 7½ minutes it was beat to a smooth paste as good as the best that ever was made—and in 12½ minutes it was all gone,—by the aid of our whole office force, and a crowd of visitors—invited and uninvited.——So much for the *time*. Mr. Torrey's freezer is a good one, the best we have seen; it is cheap, and the apparatus for stirring the cream, and the freezing mixture at the same time, greatly facilitates the freezing.—Wherever ice is accessible, farmers who have the genuine cream, or the rich milk and fresh eggs, can have such (n)ice cream as is seldom seen by city dwellers. A quart of cream will make a far more delicious dessert for dinner than the best pie or pudding; will cost less money and labor, and be far more healthful on the top of a hearty dinner of meats and vegetables.

What a Woman Can Do.—J. B. Bardwell, Worcester Co., Mass., writes to the *Agriculturist* that an unmarried woman of that place, now over 80 years old, a few years since bought a farm for $5,300, and recently added to it a pasture lot costing $500 more. She had accumulated the whole by doing housework at $1.50 per week, and putting her savings at interest. She formerly let the farm to tenants, but not liking their doings, last year she assumed the management, and with the help of one man carried on the business. She kept sixteen cows, attended personally to the dairy, and attended her own housework, besides doing the marketing, etc. A large class of young men who are idly "waiting for something to turn up," should take lessons from this old lady.

Native Fibres.—We have received from Justin S. Lewis, Franklin Co., Kansas, the fibre of a kind of nettle; from M. Taylor, Alleghany Co., Pa., a piece of cord from the fibre of a species of Milkweed probably; and from J. Howells, Wood Co., Ohio, a sample of the fibre of what is probably the Indian Hemp.

A Watering Apparatus.—"W. H. W.," communicates the following convenient plan for watering seed beds or plants generally. "Take a hogshead or other large water tight cask, and set it in a wagon upon the head, bore a hole in the upper head for inserting a funnel by which to fill it from the brook or river. Have, near the bottom of the cask on the side, a stop-cock to which a rubber hose is to be attached by a coupling, with a sprinkler at the other end. Have the hose of any desirable length and the head of water in the cask will force the water through the hose and out of the sprinkler which may be directed to any desired point."

Seeding Stony Land.—"Z.," Bolivar, Md. We should advise to go over land too stony to be plowed, with a heavy harrow, sow grass seed, timothy on low land, and then top-dress with fine manure. It is rather late for the operation the present season. The sun would be likely to kill out the young grass plants.

Fruit of Pistillate Strawberries.—F. Thomas Reilly, Ottawa Co., O. The *fruit* of pistillate strawberries would be but little influenced by the variety of staminates used to fertilize them. The *seed* would partake of the character of both of the parent plants.

Trouble with Grapes.—J. S. B., Keyport, N. J. You say that your ground "is very wet all winter and spring." This is a sufficient reason for the failure of any grape. Drain the ground. Your variety, the Isabella, is very apt to wither during the summer.

Puddling Trees.—We do not believe in the practice, except where the roots are necessarily exposed for some time before planting. In this case a coating of mud will protect them somewhat, but we would always wash it off before planting out, that the fine rootlets may be spread out rather than lie cramped and matted together, as puddling leaves them.

Plum Trees.—G. S. Tinker, Portage Co., O. Your fruit is probably attacked by curculio. See p. 164.

The Tribune's Strawberries.—Though the advertisement of these plants comes in competition with one of our special premiums, we cheerfully admit it. We believe in strawberries for the million. No fruit is more readily and quickly grown, and nothing is better adapted to the circumstances of the masses. Not a few journals formerly sneered at the seed and plant distribution of the *Agriculturist*, but there are millions of plots of beautiful flowers and of other plants now growing in this country, the original seed of which came through our general and premium seed distributions. Probably nine-tenths of the important sorghum crop now being grown is derived from the twenty to thirty thousand parcels of seed distributed all over the country, a few years since, from the office of the *American Agriculturist*. Let the *Tribune*, let any other journal in the land, take up and carry out the plan we have so long followed; it will help beautify the garden, and supply the tables with luscious home-grown fruit. In the meantime we shall not wholly retire from the field; see our special strawberry premium on page 192.

Maple Syrup for Strawberries and Wine.—H. P. Bratt, Ozaukee Co., Wis. Maple syrup will probably impart a little of its own flavor to these, but as the flavor is generally liked, that may not be an objection. If made clean and dry, it ought to have the same preserving effect as its kindred cane sugar. It would be well to try it on a moderate scale at first; and please report the results to the *American Agriculturist*.

Crops in Salem Co., N. J.—A. W. Hillman writes that sweet potatoes are largely planted in that county, farmers often devoting from 6 to 20 acres to that crop, and that this year more than usual will be planted, on account of the probable short crop at the South. Small lots of flax, tobacco, sorghum, and cotton, will be grown. The desired information given in May No.

Book for Dairymen.—A. H. Miner, Orange Co., N. Y. Flint's Milch Cows and Dairy Farming contains the information you need as to breeds of cows, and their general management. It comprises much practical matter on dairying, and is well worth the price, $1.50, to every one engaged in the business. See page 186.

Domestic Silk.—L. H. Davis, Suffolk Co., N. Y., sends a skein of very nice sewing silk of his own manufacture. We know not where to get eggs. Who does?

Plants for Names.—"D.," Makanda, Ill. The plant enclosed is *Collinsia verna*, one of our prettiest Spring flowers, and worth cultivating. The "May Apple" you describe, is *Azalea nudiflora*, and the portion eaten is a sort of excrescence, or rather monstrosity of the flower, supposed to be produced by insects, though the fact is not well established. Your other plant is probably *Calystegia pubescens*; is very pretty, but its roots spread so rapidly that it becomes a nuisance..... Lula S. Lauber, Lancaster Co., Pa. The plant is *Epigaea repens*—known as Trailing Arbutus and May Flower. Nothing is more beautiful or fragrant, but it is difficult to cultivate. Must have a rather peaty and moist soil, and be shaded.....H. B. Comstock, Cortland Co., N. Y. We do not recognize the very pretty leaf; send flowers; no seed came. You are right: a plant *is* worth double with a correct name.

Cauliflowers.—"C. A. W.," Hudson, N. J., asks why the cauliflowers grow up into long sprouts, when not immediately cut. The head of the cauliflower is a mass of undeveloped flower stalks and buds. When the season is long, these go on and develop and throw up branches to flower and bear seed.

Craig Microscope—To Many Inquirers.—For looking at *very small* objects, such as the dust upon a butterfly's wing, starch grains, etc., this does remarkably well for so cheap an instrument. For examining seeds, flowers and such comparatively large objects it will not answer at all, as the focus is very short. For these purposes a common pocket glass, such as is generally sold by opticians is better.

Flower Pots.—Eleanor Rielson, Juncaw Co., Wis. The hole at the bottom of the flower pot is for the purpose of securing drainage. Were it not for this, the earth might become too wet for the health of the roots. The proper amount of moisture is that which the earth will hold when the excess can drain off. A few pieces of broken pots, or bricks, or small stones, should be at the bottom of the pot, before filling with earth

German Stocks.—C. A. Nelson. These being annuals cannot be kept through the Winter by covering. They must be grown from seed each Spring.

Squirrels Carnivorous.—J. R. Pierson, Susquehanna Co., Pa., alluding to an item under this head, on page 262 last Vol., says he shot a red squirrel in the very act of making a meal of some half grown robins.

Cauliflowers.—"N." Ravenswood. See page 146, last month. Your seed is probably unreliable.

Use for Sawdust.—J. K. Niest, Stark Co., Ohio. Sawdust is valuable to compost with yard manure, or to apply alone to lighten heavy clay lands. It is excellent as a mulch for fruit trees, vines, etc., and may be used advantageously for this purpose during drouth.

Horse Cleaner.—P. S. Brokaw, of Somerset Co., N. J., objects to using currycomb, or brush, or the implement described in May *Agriculturist* (page 141) for removing mud from horses, because it is unpleasant to be so near the animal while using them. He recommends the stump of a worn out broom, with which the work can be equally well done and at arms' length.

A Cow Nursing Pigs.—B. Beaver, Washington Co., R. I., writes that a farrow cow owned by him was seen on several occasions lying in the barn yard, with two of a litter of pigs in the same enclosure busily drawing supplies of milk from her well furnished bag. The cow seemed to rather enjoy the novel experiment.

Hungarian Grass for Sheep.—Luther Allen, Randolph Co., Ind., requests those who have tried feeding sheep with Hungarian grass to give the results.

Book on Sheep.—C. T. Wilson, Washington Co., Wis. We know of no better work on sheep raising than "Randall's Sheep Husbandry," price $1.25. We can forward it by mail, post-paid, at this price.

Choice Eggs.—G. W. Cook, L. I. Poultry fanciers sell eggs of their stock, but there is great risk in transporting them. Jarring often destroys vitality. If packed at least carefully, partial success may be realized.

Sex of Eggs.—M. Genin, in a communication addressed to the French Academy, states that eggs which contain male chicks, have wrinkles on the smaller end, while those which are to bring forth females are smooth. We should like to hear results of observations and experiments to discover the truth or falsity of the matter.

Good Maple Sugar—A Hint.—The cake of Maple Sugar reported on our Exhibition Tables last month, from L. Wolcott, Croton, N. Y., has since been tested, and proved unusually excellent in flavor as well as in internal appearance. The lesson to be learned is, that the secret of making such sugar is expressed in one word—*cleanliness*. There is no doubt that pure white, well flavored maple sugar can be made by catching the sap in clean covered vessels, and boiling it down in clean vessels shielded from falling smoke, ashes, leaves, or other filth. The nearer we can approach to this point, the nearer perfect will be the sugar. Those who have permanent sugar groves would undoubtedly find it a paying investment to secure a set of good covered buckets with an arrangement by hook or staple to suspend them on nails or spikes driven into the tree.

Blackbirds.—A. A. Stewart, Logan Co., O., speaks in behalf of these persecuted birds. He does not find them pulling corn or molesting the young of other birds. "They follow the plow and pick out large numbers of worms and grubs, and are the farmer's best friends. Not so the crow and blue ay, which devour the eggs or nestlings of other birds. True, the crow destroys large numbers of insects, and claims some leniency, but the sly jay merits shooting at sight."

Prolific Bees.—Thomas Thompson, of Wausheka Co., Wis., says he purchased a swarm of bees last Spring, and during the Summer took 8 swarms from it.

The Asparagus Beetle.—Dr. Asa Fitch, stated at a recent meeting of the Executive Committee of the N. Y. State Agricultural Society, that the Asparagus Beetle, which has recently proved very destructive to this vegetable on Long Island, is readily devoured by chickens. As they do not injure the crop, they may be made serviceable in extirpating the pest.—Worth trying.

To Keep Striped Bugs from Squashes.—In sending some squash seeds to the *Agriculturist* Office for trial, an Illinois correspondent says he keeps the striped bugs from his vines by watering with filthy suds from the wash room, and then dusting with coal ashes. This is repeated as often as the ashes are washed off, and the squashes are not injured by the application, or by bugs. In the absence of coal ashes, dry soil may be used.

"Rooting" out Grubs.—A writer in the Country Gentleman says that, having lost a corn crop by grub worms he turned in the hogs, and they instinctively sought out the grubs, rooting them up and devouring them. On another occasion, an old pasture was badly infested with this worm, and the hogs being turned in after haying, they rooted up the worms wherever the wilted grass showed their presence.——Such a thing might occur on very light soil, but we very much doubt whether as a general rule hogs would root after grubs without finding some other food inducement in the soil.

To Repel Insects.—Charles H. Snow, Baltimore Co., Md., writes that plaster of Paris, mixed with spirits of turpentine, one pint to a bushel, and sown upon cabbages, turnips, melons, etc., repels insects. The plaster is a good preventive; the turpentine may be an addition.

Dissolved Bones.—"G. W. C.," Queens Co., L. I., we have already stated that muck, or in its absence good soil, should be used to dry the wet compound.

Stone Gathering Machine.—C. Bonnell, Wyoming Co., Pa., inquires where a machine for gathering loose stones from the field by horse power may be obtained. We have seen descriptions of such an apparatus, but do not know if it is manufactured at present. The inventor or proprietor should advertise it, if good.

Tree Chopping Machine.—Julius Meyer, Potter Co., Pa. We have not seen this apparatus, which was patented in 1859. It has not been brought before the public, and we judge is not of great value, or its merits would have been made more widely known.

Prospective Demand for Sorgho Syrup.—In a communication to the Sorgho Journal, Isaac A. Hedges gives extracts from a letter written by Belcher, the great sugar refiner of Chicago, Ill., offering to contract for *Twenty Thousand barrels* of fair to good raw sorgho syrup, at *forty cents per gallon*, for refining. This offer has doubtless influenced many to plant largely, under a guaranty of a good price and a sure market.

Manual of Flax Culture.—Under this title D. D. T. Moore, of the Rural New-Yorker, has issued a handsomely printed, illustrated pamphlet of 48 pages, containing considerable information of interest to flax growers. There is less detail of experience by practical men than could be wished, but the work contains hints and suggestions fully worth the low price (25 cents, post-paid) at which it is issued. We will have it to supply.

Black Walnut Posts.—"J. S. S." Mansfield, Ohio, inquires how long black walnut posts will last in the ground. He reports a case in which black walnut and oak posts were set together, and the walnut are sound while the oak are completely decayed; the walnut posts are likely to outlast a new set of oak posts.

Scientific Questions.—A Weekly Journal wanted.—B. M. French, Montgomery Co., Pa., and a number of others. It would be interesting to a limited class of intelligent readers, to discuss the theories respecting the action of ammonia and other compound and simple elements, and a thousand other questions, and when enough readers demand and will support a large weekly Journal devoted to the science as well as the practice of Agriculture, we shall be glad to publish such an one. It would pay the farmers of the country to support at this metropolis a journal that could not be issued at less than $3 to $5 a year, one giving extensive reports of the grain and other Agricultural markets, and of Agricultural intelligence generally. But the people are not ready for it yet. We are watching the indications, and as soon as there is a reasonable prospect that such a journal will be supported, we promise that it shall be forthcoming. Until then we must confine ourselves to a monthly at a low price, such as will meet the practical wants, and the views of the public mind as it now is.

Grapes on a Rock Heap.—A New-Hampshire reader of the *Agriculturist* writes that he finds grapes do the best when running over a heap of rocks. The rocks absorb the heat during the day, and radiate it gradually during the night, keeping up a gentle warmth.

Making Raisins.—H. A. S., will find directions on page 325, Nov. *Agriculturist*, 1861. Only sweet varieties of grapes can be used; no sugar required.

Standard Trees—Dwarf Trees—How Produced?—In answer to inquiries from several readers of the *American Agriculturist* we explain: *Full Standard* trees are those growing on roots of the *same* variety. These are usually allowed to grow full size, and generally with trunks trimmed five to six feet high. *Half Standards* are those cut in somewhat, in the limbs, and are allowed to branch two to three feet from the ground. *Dwarfs* are usually worked on a small stock of some slow growing variety; and are usually trimmed to a pyramidal shape. Thus to produce dwarf pear trees, they are grafted on quince roots (usually the Angers quince); sometimes on the thorn. Apple trees are dwarfed by grafting upon the Doucain stock, which is a small-growing species of apple, that naturally produces small, sweet apples. The Cherry tree is dwarfed by grafting upon the Mahaleb cherry, a naturally dwarf stock. Peach trees are given a dwarf shape, not by grafting, but by cutting in, planting in pots, etc. Ornamental trees are dwarfed by grafting the finer large varieties upon roots of some other variety of the same species.

To Recuscitate Dry Trees.—It not unfrequently happens that trees imported from abroad, and even those sent from nurseries a long way over-land, are quite dry and shriveled when the bundles are opened, and some persons would throw them away at once as worthless. Two subscribers to the *Agriculturist* inform us that they received some fruit trees in this condition, and at once planted out the freshest of them and buried the others, *root and branch*, in the earth. Those planted out when received, mostly died, while the others, after remaining buried for a week, were set out and nearly all lived. They were found to be restored to freshness when taken from the trench in which they were covered.

Ground Cherry.—R. A. Young, Alleghany Co., Pa. The Ground Cherry fruits the same year from the seed; it is worth cultivating for preserves. Earth Almonds or Chufas are not the same as the Ground Nut. The tubers are planted. Both can be had at the seed-stores.

Good Strawberry Mulch.—Z. Breed, Hillsboro Co., N. H., who has raised strawberries for market ten years, writes that he uses muck for a mulch between strawberry rows, with chaff or chopped straw around the plants to keep the berries from getting soiled. Muck absorbs and retains heat, thus warming the soil, and it also keeps moist for a long time.

Scorzonera is the name of the seed sent for identification, by S. A. Green, Pierce Co., Wis. It is cultivated and used the same as salsify (vegetable oyster) which it resembles, but it grows to a larger size, and the root is dark colored instead of white like the salsify.

Fine Camellias.—Our exhibition tables were gay a short time ago, with specimens of this favorite flower, from Mr. Chorlton, the well-known horticulturist of Staten Island. The varieties were: Dunlop's White; Speciosa; Alba plena; Lowii; Myrtiflora; Rubescens; Marchioness of Exeter; Binneyi; Formosa; Imbricata; Prince Albert; Donkleariі; Sherwoodii; Chalmerii perfecta; Pæoniflora; Abby Wilder; and Floyii.

Holocantha.—"J. H. P. G.," Ill. This is a native of the barren plains of Northern Mexico. It would not be likely to flourish, even if you could obtain it. We have seen it in its wild state, and an ugly object it is.

A Desirable Aquatic Plant.—We have seen in some grounds near Boston, a very free-growing and highly ornamental plant for artificial ponds: the *Limnocharis Humboldtii*. It has fine dark-green foliage, and bears an abundance of large lemon-yellow flowers. We grew it last year very successfully in a tub sunk in the border. The plant will not stand the Winter, and enough should be kept over in the house or cellar to continue the stock. Planted in a basket of peaty earth, and set in shallow water, it soon becomes established, and spreads rapidly. It is a fine plant for the aquarium. Sold by B. Greenwood, 394 Broadway, New-York City.

Can't do Without It.."—The following pithy letter was received from an old subscriber in Wallingford, Conn.: "$1 for *Agriculturist* for 1863—can't do without it—' Children cry for it-' neighbors borrow it—Refer to it weekly, sometimes daily—Tells me 'how to do it,' and 'how not to do it'—vive l' Agriculturist, and its Editors, and Tim Bunker, Esq.—You should see my pear trees—my roses—my compost heap! all on account of the *American Agriculturist*—keeps me bewitched about trees and fruits and flowers"—and all for a dollar year!

Worcester's Dictionary—Postage.—Miss Elizabeth Bewman, Lenema Co., Cal. This book weighs 10 lbs., and, if pre-paid, costs $1.60 postage within 3,000 miles, or $3.20 to California and Oregon. The Express Co., charges us $5.00 each, on the dictionary to San Francisco. It is therefore cheapest to send by mail.

Fancy Printing.—J. J. Herst, Pa. In fancy printing or printing in colors, the work generally goes through the press as many times as there are colors. Sometimes the compound colors are produced by printing one color over another, as purple, by red over blue, etc

How often Should Mares Breed?—E. S. Phelps, Bureau Co., Ill. A healthy mare of strong constitution may safely bear a colt annually for several successive years, but it is exhaustive of strength, and is usually best to intermit every third year, and in many cases every other year.

Cure for Scratches on Horses.—T. Lashbaugh, Laporte Co., Ind., writes that he has never failed in curing scratches in horses, by applying melted tar to the affected parts. It should be rubbed in well, and the hair smoothed down over it.

The Currycomb in Summer.—Farmer's Boy, inquires whether the currycomb and brush are necessary for horses in warm weather. Certainly, even more than in Winter. Remove dust and perspiration gathering under the hair to keep the skin healthy.

Kicking Mules.—M. B. Turner, Lee Co., Iowa. Mules may be cured of kicking, and otherwise made gentle, by the application of Rarey's system of taming. A full description of his method is contained in Herbert's Hints to Horsekeepers.

Book for Horsekeepers.—C. T. Vincent, Hartford Co., Conn. We know of no better work for general directions and sound every-day practical suggestions on the management of the horse, than Herbert's Hints to Horsekeepers. We can send it post-paid, by mail, for $1.25.

To Prevent Hens Sitting.—Christian Paltz, Buffalo Co., Wis. Hens may sometimes be cured of a propensity to sit by dousing them with cold water.

How Many Sheep to the Acre?—S. S. Wiest, Lancaster Co., Pa. From three to nine sheep per acre of grass land may be kept, according to its quality and the kind of sheep. It is generally reckoned that 8 Merinos consume about as much as an ordinary cow.

Corn and Wool.—"J. M.," Logan Co., Ohio., inquires whether it be true that every pound of corn fed to sheep will add one ounce to the growth of wool. It might in some cases, but the statement appears to be rather a loose one. Sheep breeders are interested, and it would be instructive to hear the results of careful experiments made to ascertain the value of corn for this purpose.

A Good Hog.—Wm. T. Russell, Ulster Co., N. Y., writes to the *Agriculturist* that in August last he commenced feeding a shote weighing 100 lbs. live weight. For two weeks his provender was best quality wheat bran and milk; from that time to December 2d, he received all the Indian meal he would eat, with a very small quantity of milk. He was fed just 107 days, and gained 257 lbs. in that time, (2⅖ lbs. per day—less 10½ lbs. on the whole.)

A Patent Hog Ring.—Daniel Brown, Marshall Co., Ill., sent to the *Agriculturist* office some time since, a newly invented hog ring for which he has received a patent. It consists of a spiral coil of wire forming a spring, which rests in front of the animal's snout; the two ends of the wire are bent so as to enter the nostrils and clasp the membrane within, where they are held by the spring. It is easily applied, and Mr. B. says was found very efficient last Summer in a herd of one hundred swine.

Sulphur for Lice.—Several correspondents have written to the *Agriculturist*, that sulphur fed to cattle, will rid them of lice. One who says he has used the remedy successfully in a number of cases, directs "to give two tablespoonfuls in a quart of meal to each animal, to be given daily until cured." Sulphur is used in the human system as a gentle laxative, and for several diseases of the skin. That it escapes from the surface of the body, is shown by the odor, and by its blackening silver articles in the pockets, and on this account, it is not unlikely that it may affect insects on the bodies of animals. A few doses may, in some instances, by its cathartic effect improve the health of the animal, and thus prove effective against lice, which are chiefly found upon debilitated or sickly animals. The common sulphur powder frequently produces griping when used as human medicine, to counteract which it is mixed with ¼ to ⅓ its bulk of calcined magnesia, or cream of tartar, and this mixture would probably be the best to give to animals.

Defective Teats in Cows.—Abraham Williamson, Hendricks Co., Ind., inquires whether the half of a cow's bag which has from some injury ceased to give milk, will yield it again, at the time of her calving. Probably not, although it may depend somewhat on the nature of the injury. We have never known a defective teat to be thus restored.

Lizards in a Spring.—E. Day, Kingston, Ulster Co., N. Y. We would not advise to destroy lizards. They are as harmless as fish, and as they feed mainly upon insects, they help to keep the water pure.

Ants.—H. L. Moss, Minnesota, wishes to know how to kill ants in his flower garden. He has tried hot water, sulphur, ashes, salt, carbon oil, etc., ineffectually, and so have we. Who can tell how to kill ants in the garden?

Burning the Striped Bug.—F. Thos. Reilly, Ottawa Co., O., recommends to burn brush over the ground on which melons and other vines are to be planted, and also in the Fall, on spots which they have occupied, to destroy the larvæ of Striped Bugs and other injurious insects. This would undoubtedly kill many in the immediate locality, if the fire were large enough, but numerous others would undoubtedly come from the surrounding ground, to take their places.

Bee Queries.—A. Webster, most of your inquiries are answered in the "Apiary" for the present month. To introduce Italian bees into a large Apiary, movable comb hives of some kind are indispensable.

Chloroforming Bees.—T. H. Mason, Litchfield Co., Conn. This has been practised by a few parties without injurious results to the bees, but we should be fearful lest an over-dose might, in unskillful hands, destroy the swarm. A little tobacco-smoke blown into the hive will usually render the bees inoffensive.

Insects on Pine Trees.—C. A. Nelson. The "little white fuzzy insect" described, is doubtless the Pine Blight. It mainly affects slow-growing trees in poor soil. Remove it by scrubbing the bark with soap-suds.

Insects on Fruit Trees.—At a recent Fruit-Growers' Meeting, Mr. W. S. Carpenter stated, and many members agreed with him, that he relied upon a healthy growth to keep off insects. It was his opinion that a perfectly vigorous tree would defy the attacks of the different varieties of bark-lice, while a tree set out with no more care than if it was a post, and afterward neglected, would soon be injured by them.

Insects on Roses.—H. B. Comstock, Cortland Co., N. Y. The color of the rose-leaf hopper is yellowish white. We can not tell the other insect from the description. The cut worm usually works near the ground, it *may* climb bushes but we never knew that it did.

Unseasonable Grasshoppers.—Mr. J. H. Patterson writes that Grasshoppers appeared near St. Clairsville, O., about the 20th of March, in large numbers, and that they passed through two snow storms and continued wet and cold weather without injury.

Aphis in Australia.—A friend in that far off land sends us a slip from an Australian paper which says, they destroy the plant lice with a decoction of an astringent bark. This completely "tans their hides." Will some of our friends try the effect of a few applications of a decoction of oak-bark, and report result?

Eggs on Apple Trees.—J. P. Funk, Md. The specimens sent were the eggs of the Katydid.

Cementing Cellars.—"J. J. W.," Meriden, Conn. If we had a damp cellar we should cement it even if floored with brick. See article on page 174.

Designating Grapes by Leaves and Wood.—L. Varies, Madison Co., Ill. A person familiar with the different varieties of grapes can in many cases pick them out while growing, by examining the appearance of the leaf, color of wood, length of joints, etc., without waiting for them to ripen fruit.

Deep Planting of Vines.—C. R. Thomas, Warwick Co., Ind., says that the Germans in his neighborhood set grape vines three feet deep in the soil, to prevent rot, and asks our opinion of the practice. If we wished to kill a vine, or put it where it would have to struggle for its life, we should put its roots three feet below the surface. The vines may survive, but it will be because they throw out roots near the surface, while those far below will soon become a decaying mass.

Prolific Grape Vine.—Amos F. Hannahr, Portage Co., Ohio., says he has an Isabella grape vine which has been allowed to grow pretty much as it pleased, and has given good crops, with two exceptions, for 13 successive years. In 1850 it yielded 6½ measured bushels of excellent grapes. Mr. H. challenges a better result from a single vine trained according to the books. Its roots receive two or three pails of soap-suds on each washing-day, and the ground is kept mulched with decayed leaves, rotten wood, walnut shucks, etc.

Grapes in April.—Not hot-house grapes, but Isabellas and Dianas, simply kept in the cellar, the same as apples. So reported Mr. T. W. Field, at the New-York Fruit Growers' Meeting. He saw them at Syracuse, N. Y., the 16th of April, and to appearance and taste, they were in a fine state of preservation. They were kept by the bushel, simply spread on shelves, or laid in boxes with lids at different hights on side cleats to prevent the upper clusters pressing those below.

Profitable Orcharding.—Dr. I. M. Ward, of Essex Co., N. J., stated at one of the New-York Fruit Growers' Meetings that he always realized from $1000 to $1200 per annum from an orchard of 1¾ acres, planted with dwarf and standard pears and apples. He lets the trees have *all* the soil, but plows the ground lightly in the Spring, and runs a one horse cultivator over the surface at intervals during the Summer.

Fruit the First Season.—C. D. Walters, Worcester Co., Mass. Transplanted trees, vines, etc., should not be allowed to ripen fruit the first season, because all the strength of the plant is needed to repair the injury done to the roots by removing. Fruiting always taxes the highest energies of vegetation.

Disease in Apple Trees.—Henry Weaver writes us that the bark of his apple trees becomes black and the trees die. Others have made the same complaint. We are not able to say, without specimens, what the disease is. As it begins with a small spot and extends, it may be some fungus. We should perhaps try cutting out the infected spot as soon as it appears.

Recognizing Fruits.—O. C. Wilson, Perry Co., O.—Downing's Fruits and Fruit Trees of America, gives descriptions and drawings of most of the cultivated fruits, by which a person can usually recognize any named sort. It also contains thorough and reliable instructions for the management of fruits. We can forward it post-paid upon receipt of the price, $2.00.

Quince Trees.—C. T. Bradley, Clearfield Co., Penn. The unfavorable situation is probably the cause of the slow growth of your young trees. At the proper season they may be moved without risk. Suckers ought not to be allowed to grow, but the bushes should be trained with a single stem like an apple tree.

Cherries from Seed.—W. H. Coleman, Ky. There is no probability that the seeds of any of our cultivated fruits will produce *precisely* like the parent trees; the stone fruits, usually vary less than others.

Osage Orange.—Several ask us about propagating this and its value as a hedge. The seeds cannot be obtained at present, and unless the plants can be found at the nurseries, its cultivation must stop until the close of the war. One subscriber wishes to know how to destroy an Osage Orange hedge. Doubtless, like other shrubs, it may be killed by cutting; when in full leaf, repeat the work as often as it springs up anew.

Propagation of Box.—Mrs. E. Cravath. Box is most readily multiplied by layers. Set the plants out rather deep and spread the branches in such a manner that the lower portion of them will be covered with earth. Another season it will be found that the covered portions have taken root, and the branches may be pulled apart and set out as separate plants.

Propagating Flowering Shrubs.—J. C. Dubois, Ingham Co., Mich. This may be done with many, by layering or removing suckers, according to the manner of growth. Some can only be grown from cuttings in the propagating house, where they will have bottom heat; but there are many cuttings, such as Roses, Weigelas, Forsythias, etc., which start very readily if kept from the hot sun. A hot-bed frame with the sash covered with whitewash, or cloth, or a frame of boards with cotton cloth tacked over one opening, will answer to shade them and keep them moist. Put the cuttings in rather sandy soil and keep them properly moist and shaded, giving them air when necessary.

The Death of Dr. Wm. Darlington. This distinguished man died at Westchester, Pa., on the 22d of April at the ripe old age of 81. He was a representative of that class of old school gentlemen of whom we unfortunately have too few left, bringing the attainments of the profound scholar into an active life and participation with passing events. He was among our oldest botanists; about 40 years ago, he published the Flora of Chester County, which passed through several editions, each one keeping pace with the progress of the science, and it is still a standard work. Dr. Darlington was untiring in his efforts to arouse agriculturists to a sense of the dignity of their calling, and to inspire them with a love for the sciences connected with it. This is shown in his numerous addresses before Agricultural and Horticultural Societies, and in his Agricultural Botany, which, in its revised form, is now popularly known as American Weeds and Useful Plants. The interesting Pitcher Plant of California (*Darlingtonia Californica*), will keep his name fresh among scientific men, and his many useful labors will commemorate him in the community in which he lived. Though a Scholar, Patriot, and Statesman, he was at the same time, from his genial sympathy with those around him, a lovable old man.

Gray's Manual of Botany—(Fourth Edition).—Ivison, Phinney & Co., N. Y. When the first edition of this work appeared, it at once became the standard authority upon the flora of the Northern States, and it has through subsequent editions confirmed its title to that position. The works of Doct. Gray have the rare merit of being in a clear and popular style without departing from scientific accuracy. An intelligent person who carefully reads Gray's First Lessons in Botany, will have a clearer idea of the structure of plants than can be obtained from any other work in the language. The volume before us contains these First Lessons, a section on Garden Botany, and the Manual proper, which gives descriptions of the native and introduced plants growing North of Virginia, and East of the Mississippi, and includes the discoveries made since the last edition. An important addition has been made to the present edition of eight beautiful plates, illustrating the genera of Grasses. The study of these interesting plants, which is generally considered difficult, will be greatly facilitated by the help of these accurate delineations. The Lessons and Manual are sold separately, or bound in one volume, and will be found in our book list.

Prices of Books.—The cost of printing paper has remained nearly stationary for a month past, and the prices of books have not varied materially as will be noticed in the list on page 186. Until the paper market becomes settled, the publication of sundry books will cease as the editions previously on hand becomes exhausted, and prices of others will be advanced. There is no prospect of any decrease until long after the war is over, and it will be expedient to secure early, any book likely to be wanted. The prices in our list are good only for the month in which they are published. We do not keep a "book store," but usually have on hand or procure as needed, books relating to the Farm, Garden, and Household, for the convenience of our subscribers, and mail them *post-paid* at the usual retail price, though this affords but small profit—sometimes none at all.

Investing Money—Last Month of the Five-Twenties.—We referred last month (page 133) to the value, etc., of the U. S. Six per cent Bonds, called "five-twenty" because they are payable in 20 years, but the government reserves the right to pay them after 5 years. If this reservation were not made they would command a large premium. The same kind of Bonds not payable until 1881, are now selling at $108, or 8 per cent. premium. The reason of this is, that foreigners and others, prefer a loan having a long time to run. A good farm mortgage of 20 years will sell for more than one of 5 years. We think these 5-20 Bonds are the best sure investment now in the market. It will be noticed that *the privilege of taking these bonds at par expires with the present month.* For further particulars, see last month's notice, and especially the full advertisement on p. 186, of the Government Agents, MESSRS. FISK & HATCH, who are careful, accommodating, and reliable Bankers. Those having funds in Savings Banks will do well to note the closing paragraph of their advertisement.

For the Hamburg Show — Free Freight.—The last steamer for Hamburg, by which articles can leave in time for the Great International Show, will sail from New-York, June 13th we believe. It may not be generally known that the Legislature of New-York appropriated $1000 to be devoted to paying freight on articles manufactured in this State. This was placed under the direction of the State Agricultural Society, and the officers have decided to pay the expenses from the point of shipment to Hamburg, including freight to New-York, and transferment in the city. This places parties in all sections of the State upon a par. The articles are to be forwarded to the care of Austin Baldwin & Co., 72 Broadway, N. Y. Only the $1000 can be so expended, which will be applied to the articles in their order of entry. For further particulars address Messrs. Austin Baldwin& Co.

Farm Help Wanted—and Coming.

A letter from Illinois says: "So many have gone and are going to the war from the patriotic West—we mean to open the Mississippi at least, if *all* have to go—that we can not get help to plant the extra acre you advise in the *American Agriculturist*, and if planted, we are not sure of help to cultivate it, or to gather the harvest. Can you not send us men from your over-crowded cities at the East? They can here get plenty of work at good wages, and abundant cheap food for themselves and families."

Reply.—The East is patriotic too, as the records of the War Department will show. For months past we have seen no men worth anything who have gone begging for work. Common laborers readily get $1 to $1.50 per day (without board,) which, deducting board and stormy days, is equivalent to $13 to $18 per month. We should hardly know where to look for a dozen men to send to the West. But the demand for farm help is in a fair way to be at least partially supplied, within the next two or three months. Never before has there been such an influx of able-bodied men from Europe—from Germany, and especially from Ireland. So great is the emigration from the latter country, that the British Government recently addressed a note to the American Minister, intimating that our Government must be using special influences to attract them away to our armies. Mr. Adams replied that no official influence had been used, but naively intimated that it was not surprising that so many were leaving oppression and want, and flying to a country where there is abundant cheap food and well-remunerated employment. We learn that this emigration is only limited by want of ship-room and the means of paying passage hither. The shipping facilities are being rapidly increased. We suggest that the German and Irish residents of this country be encouraged to send for their friends. They can still get here before the close of the harvest season, if they come by steamer. Let them understand that foreigners coming to this country will not be subject to the draft, unless they voluntarily take upon themselves the duties and privileges of citizenship; while their coming now will be a benefit to the country as well as to themselves. A man in Ireland, or elsewhere in Europe, with a dependant family, and with no prospect there but poverty and want, can by coming here earn enough the present year to send for his family, and place them where with cheaper and more abundant food he can not only support them, but lay aside something to build up for himself a home in the West ere long.

The Homestead Law allows any one who may hereafter become a citizen to choose a free farm from the public domain, where he can settle in a home of his own. There was never a more favorable time for the teeming population of the Old World to come to the New. Industrious men of good habits will be welcomed by farmers, at almost every point throughout the Northern States. Let these facts be properly set before the foreign population in our midst. A few dollars loaned to a servant girl, to be added to her savings, may often enable her to send for a father, or brother, or relative, whom she is now helping to support in poverty on the other side of the Atlantic. No doubt many farmers would find this a good way to secure additional help for harvest and Autumn work.

The Crop Prospects.—The result of the returns being gathered at the Agricultural Bureau, on the state of the growing crops, will not be ready before the publication of our next issue. From all we can glean from our correspondence and from exchanges, up to this date the general prospects of the crops are very good. There are some exceptions here and there, but these are confined to limited localities. The winter grain proved to be less injured by the open weather than we feared it would be. The late opening of Spring kept back the crops, and it retarded spring work so much that farmers are now greatly driven, but the May weather is hastening forward the growth of all crops in the ground. The fruit trees have bloomed very freely, and if no untimely frost occurs, the fruit crop will be very large. After two successive years of fine crops of almost all kinds we could hardly hope for a third one, yet that is the present promise. The result will depend upon the weather between now and harvest time. The only unfavorable thing for *our* country, is the apparently prosperous condition of the crops on the other side of the Atlantic. If this continue until harvest, it will largely diminish the foreign demand upon us, and perhaps depress the market prices here.

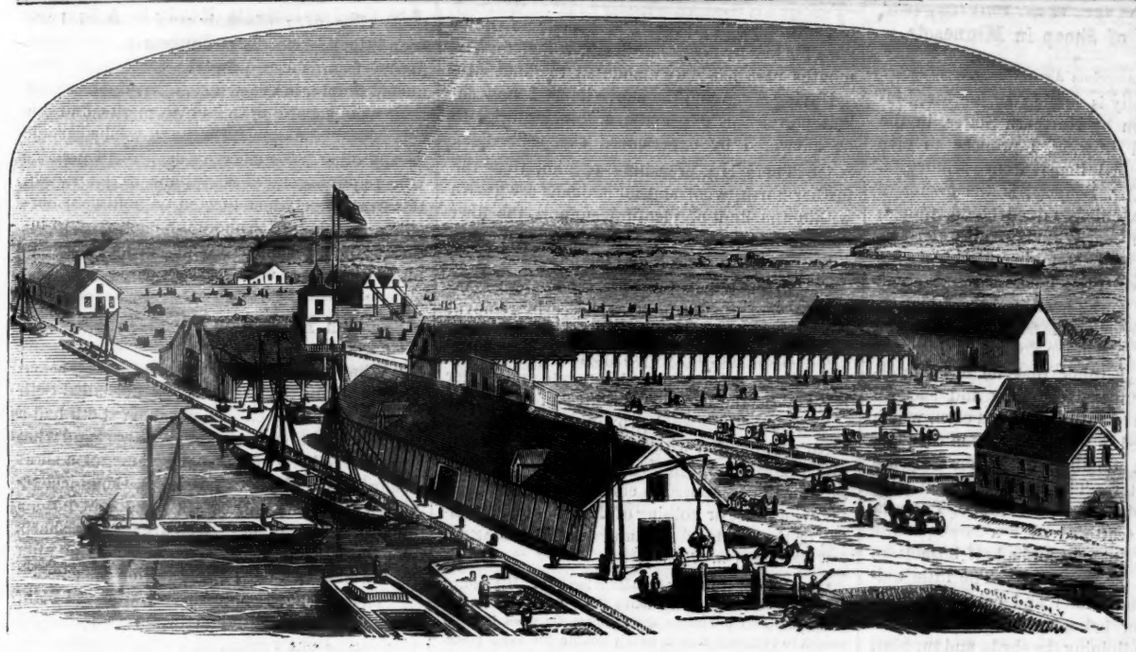
Are the Implements Ready?—A Scarcity of them Probable.

The present short supply and the high price of labor, may in part be remedied by securing more or better labor-saving implements. Two men with a mowing machine, horse-rake, and horse-pitchfork, will gather as much hay as eight or ten men using only the scythe, hand-rake, and common pitchfork. The same is true in regard to the reaping machine, the horse cultivator, etc. The more rapid gathering of a crop, at just the right time is a strong reason for using these implements. As we have often urged in the *American Agriculturist*, a man with a first-rate plow, hoe, ax, etc., will do nearly double the work in a week that can be performed by another man using poorer implements, while the extra cost of the former will often be less than the price of a single day's work.—Another suggestion. Those who intend to get new or improved implements this summer, should look out for them *at once.* Owing to the uncertainty in business matters, manufacturers generally did not provide their usual stock, while it is very probable that the demand will be greater than ever before. Indeed, the dealers in implements and seeds tell us that their business is already far exceeding any thing in past years. It will not do this year to put off the buying of a mowing or reaping machine, for example, until the week it is wanted, or there may not be one to be had at any price. Better have the orders in at once, that the manufacturer may prepare to fill them. Our advertising columns will indicate some of the present sources of supply. A note to the different dealers and manufacturers will obtain the terms etc., when not fully given in the advertisements. No time should be lost now.

About Advertisements—Explanation.

Numerous letters from subscribers seem to render an explanation necessary. The advertising pages, which are usually not supposed to be edited at all, are the most difficult labor assumed by the Editors of the *Agriculturist.* The reception of advertisements is alloted to one of them, who is instructed by the Publisher to exclude all unreliable men, or those believed to be so; all unknown parties who cannot give satisfactory references; all humbugs, secret remedies, patent medicines, etc.,—in short, everything likely to *deceive* the readers. In these times, this is a hard rule to live up to. We are really giving back to our readers *all* their subscription money, and even a part of our advertising receipts, in the paper which we furnish them. It is also difficult for us to compete with other journals, almost all of which—not excepting the religious Press—admit to their advertising columns, things which the publishers would not have read aloud in their family circles. These semi-obscene advertisements, as well as those of humbugs, are of the most profitable kind; for those who make but a small return to their customers can best afford to advertise largely, and those who make their living out of the morbid curiosity of the youth of both sexes pay well for the privilege of bringing themselves to notice. We are sometimes offered $2 or $3 a *line* to insert such advertisements in the *Agriculturist.*—We still continue to follow the rule mentioned above, but would state, in answer to several letters, that we do not specifically endorse whatever appears in our advertising pages. Take, for instance, the manufactured manures, superphosphates, phosphatic guanos, etc. We do not buy or use many of these, and do not advise others to do so,—yet as many persons have a degree of confidence in these compounds, we allow *responsible* parties to advertise them. Again, with regard to new fruits, tree cotton, and recently-introduced plants generally, these may be desirable, or of doubtful utility, or even worthless. When we believe the parties are offering them for experiment in good faith, we admit the advertisements for the benefit of those who can afford to try them. Well-known public journals advertise with us, and these are of widely differing character. We of course do not endorse the politics or the specific religious views of any particular paper that uses our columns to make itself more widely known, if published by responsible parties. Excluding all whom we *know* to be dishonest or unreliable, we allow our advertisers to present their wares to the readers of the *Agriculturist*, presuming that they will exercise their own judgment upon them. Our advertising columns are well worth perusing; they keep the intelligent reader posted as to the recent improvements in agricultural implements, new plants, seeds, etc., and other matters of interest.

We strongly repeat our standing request that those who order of or write to *our* advertisers, will let them know *where* their business cards were seen. It will please the advertisers, and be a material aid to our business department, as it is the success of this part of our paper that enables us to supply it at so low a rate.



The "Night Soil" of New-York City.

That night soil is one of the most concentrated and powerful fertilizers, has long been known; though from natural aversion, for wise reasons made instinctive, few persons are willing to turn this material to practical account. There are in this City, at all times, more than a million of resident and transient persons. If we estimate the night soil at only eight ounces per day for each inhabitant, the yearly amount would reach 182½ *million pounds, or ninety-one thousand tons!* This material would doubtless be worth to the fields of the Eastern States at least two cents per pound, if it were properly saved and mixed with the soil, or more than three and-a-half million dollars! Indeed we believe it would produce an increased product of crops worth five or ten fold this sum. Since the introduction of Croton Water, a large proportion of this night soil is washed into the sewers, and then out to mingle with the waters of the ocean. Still, according to the City Inspector's report, about 9,000 privies, vaults, etc., are annually cleaned by night scavengers, the contents being conveyed away in covered carts. The number of cart loads (25 bushels each) ranges from 40,000 to 50,000 a year. The extension of water pipes is constantly decreasing this amount. The carts are dumped into barges at a few points along the river. For the five years, 1861–5, the barges are furnished by the Lodi Poudrette Company, the City paying them about $15,000 per annum. We recently visited the works of this Company, located on the west side of the Hackensack River, N. J., about half way between New-York and Newark, in order to see how they disposed of the material, and to learn from observation, whether it was honestly prepared for use by farmers. For twenty years past farmers have heard of the Lodi Poudrette, and large numbers have used it. Some of our acquaintances have purchased it regularly for from five to twenty years, and believe it a good investment. We made our visit to the works without previous notice, to the end that we might see just how the manufacture was carried on in the ordinary daily routine. The accompanying sketch gives a general view of the works. About six acres of swamp marsh, along the bank of the Hackensack river, are occupied by the buildings and drying beds. This is, we believe, the most extensive establishment of the kind in the world, exceeding even the noted Poudrette Works near Paris. As will be seen in the engraving, there is a long wharf (about 1000 feet in length). Running parallel with this are a series of canals, or reservoirs, for holding the night soil as it is raised from the barges by means of buckets and poured into them. Sixteen of these barges (holding about 8000 bushels each) are constantly plying back and forth to the city, or lying at the wharves to receive the material. The end of one of the reservoirs is seen in the foreground. The emptying of the barges is done by a portable steam engine moved along the wharf to the different landing places. The material is dropped from the buckets upon a coarse screen which separates the larger rubbish—bricks, pails, boots, etc. In the reservoirs the dark green, semi-fluid mass partially dries down, the odors arising being from some cause much less offensive than we expected to find them. Back of these reservoirs are the drying beds where the men are seen at work with shovels. These are in part covered with board flooring, and in part are the smooth ground surface.

The manufacturing process is begun by spreading over the surface of the floors, a thin layer of muck dug near by, or alluvial soil brought from a point where it is washed out by the Hackensack and Passaic rivers. The night soil is then taken from the reservoirs, and a thick coating spread over the layer of muck. As it gradually dries out, the mass is shoveled over by large gangs of men, of whom 100 to 120 are employed at the works. This shoveling over and mixing is done several times, before the whole is dry enough to be taken in wheelbarrows to the screening buildings. In the latter it is thrown into large heaps, and again shoveled over to make the whole mass as uniform as possible. This is important, for if not done, the variable character of the night soil, as gathered from different parts of the city, might make one batch inferior to another.

The next process is to pulverize and screen the mass. To do this, it is shoveled into box sieves, and worked over and over, and beat with shovels until the finer portions fall through the screens. It is then ready for packing into barrels. These are all manufactured on the spot, the sawn staves being brought from Maine, the ready made heads from Massachusetts, and the hoops from various places. (The staves, heads, and hoops now cost about 18 cts. per barrel, and the men get six cents per barrel for putting them together, averaging 35 per day per man.)—We were greatly amused at seeing the immense masses of rubbish separated from the night soil, during the different screenings, showing the privy vaults to be an "*omnium gatherum*" for all conceivable things, deposited in part by design, and in part by accident. We noticed brick bats by the scores of cartloads; bottle corks by the million; broken crockery of every possible kind, and some not broken; stove pipes; tin pans, tin pails, tin funnels, tin kettles, and about everything else made of tin; children's toys in inconceivable numbers, and of every kind ever made; beer bottles, stone jugs, glass bottles, and glass ware of all kinds; oyster cans, sardine cases, brooms, oil cans, carpets, old garments of all sorts; hats, boots, shoes, books, clock wheels, etc., etc.—not to mention bones, (some of them evidently human), many watches, gold rings, and other jewelry, precious stones, coins genuine and counterfeit in large numbers, counterfeit dies, etc. The workmen often find valuable prizes, which is perhaps one incentive to the following of a business at best unpleasant. Women gather the glassware and sort it, selling the different kinds at various prices, to be melted over, or ground up. They also gather the bones, the company paying a stipulated price per bushel. The establishment is worth visiting as a "curiosity shop" quite equal in some respects to Barnum's. Any one going there will need to provide himself with a good pair of boots, and, if having over sensitive nasal organs, to take along a bottle of hartshorn. Strange to say, however, the manufactured product, though containing but a small proportion of muck as an absorbent or dryer, is in the form of a dry powder, and nearly inodorous.

After being put in barrels, it is taken to the city warehouse, and delivered to the different steamboats, railroads, etc. Farmers take away large quantities in *bulk*. The fact that there are regular customers who come year after year, (we conversed with some of them who chanced to come while we were there), is fair evidence that the material is of practical value. It is used most largely for corn, a handful in the hill with the seed, to give it a vigorous *start*, a good developement of the first roots whether on poor or good soil. Its great merit seems to be quick action upon young plants. It is not injurious to the seed, though in contact with it. Poor or heavy soil needs also coarser barnyard manure, to improve both the tilth and fertility.

Management of Sheep in Minnesota.

To the Editor of the American Agriculturist.

As stern necessity is forcing an increased interest to be taken by Northern States, in the business of wool growing, I propose to give you a few practical items from Minnesota.

My neighbor Mr. Bennett, is the owner of about 2000 sheep, chiefly mixed blood, though a few are extraordinarily fine Spanish Merinos. He farms out about 1200, taking for his profits the fleece, and when the flock is returned, an equal number of young healthy sheep. The remaining 800 he feeds on his farm, and it is to the management of this home-flock that I would call attention, as I think that he has wintered them with unusual economy and success.

Mr. B. raised a quantity of Indian corn, which was cut and cured in the usual way in the field, where it was left standing in stack for daily use during the Winter. The feeding season with us is almost invariably free from rains. The corn was drawn and scattered over a large pasture at the rate of about one and-a-half bushels of grain to a flock of 200 sheep. The little animals stripped the stalks and cobs absolutely clean; then after being watered they were enclosed in yards adjoining the sheds, and supplied with an abundance of fresh straw, in racks.

Cost of Wintering.—Mr. B. estimates the cost as follows: In our neighborhood, unimproved land costs from five to ten dollars per acre. An acre of well cultivated and well cured corn, costing about $5 for labor, will support 15 sheep, at 33⅓ cents per head. It is now the last of March, and he has still some weeks of provision left.

How the Sheep Look.—Under this head it is unnecessary to multiply words. The sheep are fully as fat as desirable. They are healthy, fleece heavy, clean, and in excellent condition. Mr. B. estimates his clip will average four lbs. to the sheep, including the last year's lambs.

How Sheltered.—Our climate, I repeat, is unusually dry during the Winter; we have few or no rains, or heavy snows, therefore but very ordinary protection is required; nor need we confine the animals to close, heated, and unhealthy stables. Sheds of rough boards, or poles and straw are infinitely preferable to the most costly and closely built stables. Mr. B.'s sheds open to the south, and are well boarded against northeast and west winds. They have a depth of about 16 feet, which gives ample protection, affording a dry, airy, healthful, and all-sufficient shelter. The pens and sheds are daily spread with clean fresh fitter—the straw which the sheep pull from the racks. In warm days which come suddenly upon us as Spring approaches, the animals are driven to the open fields, away from the fumes of the heated manure, until the approach of night-fall, and in this daily care for the health of his flock, lies the true secret of Mr. B.'s success.

So soon as grass appears, pasturage with us is not an item of cost. A sufficient range is so easily procured, that at most it can only cost the wages of a man, who with a good dog, will look after and care for from one to two thousand.

The Profit.—According to present appearances Mr. Bennett's profit item will stand as follows:

Sheep averaged when purchased		$2 20
2,000 Sheep at $2 20	$4,400	
Cost of keeping	1,320	5,720
Sheep worth without the fleece, say $5		$10,000
8,000 lbs. of wool, say 75c		6,000
Lambs, say		1,500
		17,500
Deduct first cost		5,720
Balance in Profit*		$11,780

You will observe that I have added a cost for Summer keeping equal to the Winter, which is of course an excess; but I have made no allowance for loss by disease or death, which for six months past has only amounted to about $10.

Having given you the above items I now solicit permission to propose a few inquiries to be answered by experienced sheep breeders.

1st. There is a prevailing opinion that the further north, wool and fur animals are grown within the limit of plentiful support, the finer and better is the growth of the animal's covering:—Is this only a conceit, or demonstrated fact?

2d. Do fine blooded sheep of the Eastern countries, degenerate in flesh or fleece by removal to the colder climates of the American States?

3d. Have sheep growers determined the quality of sheep natural to the temperate and colder climate of the Northern States of America?

The subject of wool growing is at this moment so pregnant with interest that it deserves much more than ordinary investigation. Thousands will be tempted to embark in the business, knowing little or nothing of the habits, the quality, or the wants of the animals. T. T. MANN.

Washington Co., Minn.

* Mr. Mann's estimate of profits is too large. His figures put wool at $1 a pound, making the profits $11,780; we took the liberty to change the estimate for wool in Minnesota to 75c., and that is nearly double the *usual* price. The present quotation in New-York (May 6) is 70 to 90 cents, from which must be deducted freight, commissions, etc. Again, is not $5 a head for *shorn* sheep rather a high estimate for Minnesota. If one were to now embark in sheep growing, he would of course have to pay present rates for stock sheep, and not $2.20, the price paid by Mr. Bennett. We readily grant that wool growing is largely profitable, and likely to continue so, but add these remarks as a caution against too great expectations.—ED.

Shall Sheep be Washed?

Wool undoubtedly needs cleansing before it can be used in the manufactory, but it does not follow that it must be washed while on the sheep's back. There are many reason why it should *not* be—few if any valid ones for a continuance of the practice. The best washing will only remove part of the foreign matter from the fleece. The manufacturer subjects *all* wool to a cleansing process, whether it has been previously carefully washed, or only "soused" in a slovenly manner. Sheep washing is violently unnatural. No animal dreads the water more, and with good reason; it requires days of warm weather to evaporate the moisture held in the meshes of a thick fleece of wool, and the animal not only suffers discomfort, but frequently positive injury. It is comparatively an easy process to remove the yolk and dirt from wool when sheared from the sheep, but impossible to complete the work while upon the back of the struggling animal. It would be just as wise, and little less humane, to give children an occasional plunge to remove stains and soils from their garments. But for the washing, the sheep might be sheared one or two weeks earlier in the season, which would promote heaviness of fleece, and add to the comfort and thrift of both sheep and lambs.

The great objection urged against shearing unwashed sheep, is that an unwarrantable deduction in the price of the wool is made by manufacturers. The remedy for this is with the producer. He has only to remain firm in a reasonable demand, and in time his terms must be acceded to. There is a very just cause of complaint in the practice pursued, of buying wool according to a general average of cleanliness, instead of fixing the price according to the actual condition of each lot. This has, in effect been, to offer a premium for neglect, and many clips of professedly washed wool have been little superior in cleanliness to unwashed fleeces from sheep properly cared for. Producers should, in every case, insist upon selling their wool according to its own merits, and this can as easily be done with the unwashed article as any other. To change the present practice will require general simultaneous effort, and this can scarcely be expected without considerable discussion. It is here intended only to indicate some of the leading points that seem to make the change desirable.

Tim Bunker on Sheep Traps.

"What upon airth d'ye call that?" asked uncle Jotham Sparrowgrass, as he hailed Seth Twiggs in the street, this morning. Seth had a gun over his shoulder, and held in his hand what might have been mistaken for game, at a short distance. On closer examination, the object revealed a pair of short ears, a prominent nose, a long clean pair of jaws, well armed with sharp, bloody teeth. It was what is left of a dog after his tail has been cut off just behind his ears.

"That is what I call a sheep trap," said Seth, as he flung the head upon the grass, pulled his pipe out of one pocket, and a match out of the other, and lighted.

"Why that is Jake Frink's dog!" exclaimed Uncle Jotham.

"Taint Jake's any longer," replied Seth. "Ye see I caught him in the act, this morning airly. He was gnawing away at a sheep he had run down, and that is sheep's blood you see on his teeth now. I put that bullet between his eyes, and he hadn't time to clean his teeth before he emigrated to t'other country. That trap has caught three sheep of mine this Spring, besides lots of my neighbors, to say nothing of the lambs, and I was so afraid the trap might be set again that I jest cut his head off after I shot him, to make sure work of it. That critter has destroyed a hundred dollars' worth of property this Spring, I haven't a doubt. Sheep have been found dead, and badly maimed, and he has been seen chasing them. When complaint has been made to Jake, he could not believe he was guilty of even chasing sheep. He did not allow him in such tricks. His dog was as innocent as a lamb. Children could play with him, and he wouldn't even growl. To hear Jake talk, you would think the dog's mother must have been a sheep. Waal, now, ye see, that talk didn't go down with me. I can tell a sheep stealin dog as soon as I lay my eye on him. There is a kind of guilty look about the critter, that says mutton, as plainly as if it stuck in his jaws. Jake has never been able to raise sheep. If he tried, his lambs disappeared mysteriously when that dog was a puppy. He always laid it to other folks' dogs. But Rover was the guilty wretch that drunk lamb's blood. I have been watching him for about a week, and ye see this morning I got him jest where I wanted him. There was a piece of mutton in his mouth when I fired. It will take a smarter man than Jake Frink to get away from that fact."

"I guess you'll catch it when Jake hears of it."

"He won't have to wait long, for I'm going to take home Jake's sheep trap this morning. I wouldn't have you think that I'd shoot a man's dog, and then not own it. That would be too much like a sheep stealing dog. I calculate to take the responsibility."

This conversation of my neighbors shows the way the current is setting in the dog question, and the progress the reform is making, under

the new laws, and especially under the high prices of wool and mutton. This last, I think, has more to do with dog killing, than all the laws that have been enacted. With wool at a dollar a pound or in that neighborhood, every body that owns land wants a few sheep. Even Jake Frink rubs his eyes and wakes up to the fact that sheep raising will be a paying business. Sheep will live and do well on his poor pastures where his cows grow poor. He will bluster of course, when he learns that his dog is killed, but he will be resigned and conclude that his sheep as well as his neighbors' will be safer with that sheep trap out of the way. A large number of poor farmers, and rather poor citizens, who have the dog mania will invest in sheep, and that will make *them* the natural enemies of dogs. I have noticed that it makes a mighty deal of difference whether it is your sheep or your neighbors' that are bitten or killed. Resignation is a virtue easily practised, when a pack of dogs get into your neighbor's flock and worry and slay. But when you go out some fine morning and find your fattest weather half eaten up, or your full blood Merinos made into mutton prematurely, it stirs the blood at once against dogs. You owe the whole race a grudge. You think of steel traps, bullets, and small stout cords in close proximity to dogs' necks. You talk fiercely and threaten vengeance. Men in such a humor are prepared to legislate rationally upon the dog question. They see very clearly that one vile cur, not worth a copper to any body, may easily destroy a hundred dollars' worth of their property in a single night. With sheep at two or three times the old prices we shall not only have good dog laws, but we shall have men that will execute the laws, and the dogs at the same time. The old arguments on this question are just as good as any new ones that can be brought forward, but men see them a great deal better. A sheep is a creature of consequence, just about three times bigger than it was two years ago. The dogs have grown small, and a multitude of them have grown out of sight entirely.

There used to be a dog on about every corner of the streets in Hookertown. Some families kept a half dozen, and they had tight match to get enough for their children to eat, too. Now they are getting scarce, and I am in hopes that the time is not distant when they will be confined to cages, and shown up as curiosities at Barnum's. It does my eyes good to see children and lambs fat and happy, and dogs lean and miserable. Fat dogs indicate a low civilization like the Chinese, or a low state of morals like the White Oaks, where the dogs are more numerous than the people.

I have hated dogs ever since I was a boy. My father kept sheep and was a lover of choice mutton, and chose to do his own butchering, in a humane and decent manner. I remember an old ewe with twin lambs, a cosset who came home with the cows to be petted, and cared for as if she were a member of the family. One morning she was found dreadfully torn by the dogs, just alive, but unable to move and her lambs missing. I have hated the sight of a dog ever since, and never pass one in the street, without an apprehension of a bite, and a great longing to brain him on the spot. Seth Twiggs has given them the right name, "Sheep Traps."

And the morality of keeping a sheep-killing dog is on a par with that of a malicious neighbor, who should set steel traps in the sheep walks of your pasture. I would much rather have steel traps than the dogs. The trap would be certain to dispose of only one sheep in a night, while the dog might kill or maim a dozen. The trap and the victim would be found together in the morning, and the mystery of the broken leg would be cleared up. But your cowardly sneaking dog does his work by night and is miles away in the morning, with his chops all licked, and lying by his master's door, as meek looking as if he never dreamed of mutton. The owner of a steel trap is a responsible being, but the owner of a dog seems to think that his brute is what Mr. Spooner would call a free moral agent, fit to do business on his own hook. He is not accountable for the deeds of his dog. I go in for trapping rats, skunks, foxes, weasels, and other vermin. If we must trap sheep and lambs, I prefer an article with steel springs and chain, to a pair of living jaws on four legs. The latter catches too much game.

Hookertown, May 10th, 1863. Yours to command, TIMOTHY BUNKER ESQ.

Small Pox in Sheep.

It will be remembered that no little excitement was caused in England last year by the appearance of small pox among sheep. Active measures were soon instituted to meet the emergency, and we are happy to learn that they have been successful. An Association formed among the sheep breeders in Wiltshire, to prevent the spread of the malady and to afford compensation to those who might sustain loss by its attacks, has just closed its accounts, there being no present necessity for its continuance. The proceedings of the Association during the year are of general interest. When the disease first appeared it was recommended and practised to some extent, to inoculate exposed flocks, on the supposition that the malady would be less severe in its effects. This, however, proved not to be the case; inoculated flocks died off rapidly, and thus the proposed preventive only spread the infection. The Wiltshire Association instituted experiments to determine the efficacy of vaccine virus, which proved entirely satisfactory. Six healthy sheep were vaccinated and then confined with others that were diseased with small pox, and which subsequently died, but the vaccinated sheep resisted all contagion and remained perfectly sound. To put the experiment to the extreme test, the six sheep were afterward inoculated with small pox virus. Two of them died, two had the disease rather severely, the other two slightly, and the four fully recovered. The Association recommend instant isolation of an infected sheep, and the vaccination of those in the vicinity, as almost certain means of eradicating the disease.

The labors of the Association brought to light some startling facts concerning the introduction of diseases among stock by importations from infected districts. There remained no doubt that the small pox was thus brought in. According to Government reports, the cattle diseases of England rose in ten years from a yearly average of 1¼ to 5, 6, and 10 per cent. A Government commissioner stated that, in 1862 the loss from disease was at least three times the total amount of cattle imported, a large part of which was clearly traceable to the introduction of diseases from abroad. It is very justly considered a matter over which Government should exercise proper control, and it will not be amiss for American farmers to give the subject due attention in time. The Pleuro-pneumonia excitement, though somewhat exaggerated, shows how great the danger may be, and as our flocks and herds become more valuable, and greater attention is given to raise the standard of excellence by bringing in new blood, the risk will be proportionately increased.

Cure of Foot Rot in Sheep.

To the Editor of the American Agriculturist:

I have repeatedly used the following treatment for foot-rot in sheep with complete success. Prepare a solution of blue vitrol as strong as it can be made, by pulverizing and dissolving in warm soft water. Each hoof should then be examined, thoroughly cleansed with a knife, and if too long, cut to the proper dimensions. If no infection be found, let two men take the sheep with a leg in each hand and dip every foot into the solution of vitrol. When an infected hoof is found, carefully pare it until every particle of the infection is exposed—avoid bleeding the foot if possible. Then thoroughly saturate the foot with spirits of turpentine from a vial with a quill inserted in the cork; pour on as much fine powder as you can make adhere to the foot or the parts infected, and apply a lighted match to the same; after which dip the foot in the solution as above directed. The sheep should then run on a clean floor until the remedies have had sufficient time to take effect.

I have cured an entire flock with a single course of the above treatment. But to be safe, the same should be repeated in five or seven days, and if any cases of infection be found, repeat again. Should an obstinate case be found where the rot has penetrated into the center of the quick, the sheep should be put into a pen or small yard by itself, and subjected every second day to the prescribed treatment. Thoroughness is the great secret of success in treating the foot-rot. The knife is the principal remedy, if sharp and skillfully handled. A SUBSCRIBER.

Middlebury, Vt.

Prevention of "Cribbing" in Horses.

To the Editor of the American Agriculturist:

I found myself cheated to the amount of $50 by the purchase of a horse sold as "sound," but which proved to be an inveterate cribber. Various remedies were recommended and tried without success. Finally, I have found a preventive, if not a cure. I have arranged the stall so as to leave nothing against which he can press his teeth. He is fed from a low box which is pushed into the stall from a passage-way, and the box is withdrawn when not in use. (It is said that a horse can not crib with his head down.) The opening for air and light is placed too high for him to reach it, to crib against its sides. Since adopting the above arrangement, the horse has improved in condition and spirit, and his value is also much increased. X.

Salting Stock.

Probably we do not know all the uses of salt in the animal economy; but a few are obvious. It acts beneficially upon the liver, yields a supply of soda to the bile, and gives increased nutritive power to food. It acts as a vermifuge, keeping the bowels of stock free from worms, and gives increased tone to the stomach. It tends to prevent rot in sheep. As to the amount and the time of giving it, farmers disagree. Some are accustomed to salt their stock regularly, once a week. Many successful farmers keep salt within reach of their stock, believing that they will eat only as nature requires.

Experience with Italian Bees.

To the Editor of the American Agriculturist.

July 3d, 1861, an Italian queen was received at my Apiary. During the last of that season, I reared six queens and introduced them into stocks that Winter. In the year 1862, under the same circumstances, the Italians did one-fourth better, and where I introduced them to some of my neighbors, they say that they have done one-half better than the common stock. Of two colonies that stood side by side—the Italian filled 14 4½lb. boxes; the common bees, filled 8 4½lb. boxes. In introducing Italian queens, I find that the common bees disappear in about 90 days. This season I intend to introduce a common queen to an Italian stock to test what is now theory, that is, whether the life of the Italian worker is longer than the common. Either this is the case, or the Italian queen is *very much* more prolific. That it is a more active worker I have no doubt; that it will defend its stores with marked promptness is also true. I have been troubled less with robbery from the Italian than the common bee. Last year until after swarming or dividing, I had over 100 colonies at my place; then I carried some to what I supposed were better honey producing localities. The Italian bee is larger when it builds its own comb. I notice that they fly earlier and later than common stocks of equal strength, also on a cool day when scarcely a common bee is out. If the Italian bee is abused, it will resent it more vigorously than the common bee, but with care they can be managed as well. This Spring my Italians are in good condition and I am much pleased with them.

Tipton County, Iowa. C. G. McNEIL.

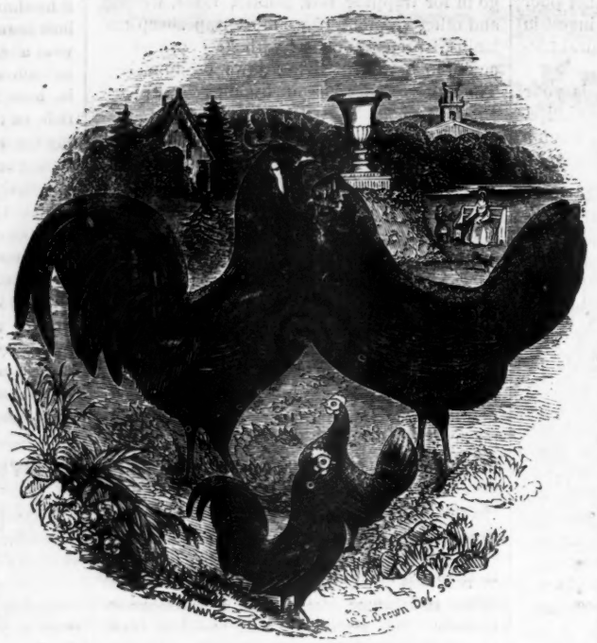
[We print the above as one of the apparent results of experiments with the Italian bee; but it will require a great number of careful experiments, to finally decide whether or not the Italian bees, as a rule, are better workers, more vigorous, and otherwise superior to the common bees. In the above case, and in the few others reported, the apparent difference in the amount of the honey, *may* have resulted from other causes, as it often happens that of two common swarms, apparently of equal number and vigor, the one will store up double the amount of honey secured by the other, though no reason can be given for the difference. If the general experience continues to show a marked difference in favor of the Italian, there will then be good reasons for introducing them generally.—ED.]

Sheds for Manure.

Some farmers would build sheds for their manure, if it were not for the trouble. Others would do so, if they did not fear fire-fanging, or waste by drying up. But the trouble is nothing to an industrious man, and if the heap is properly managed, there is no danger from excessive heat. By protecting it from wind, sun, rain, and *washing*, its value will be largely increased.

It is doubtless true that horse-manure alone, if covered, will suffer from too rapid decomposition. But this can easily be prevented by mixing with it, as the heap is forming, frequent "dividers" of muck, tan-bark or common soil. The very best way is to throw up rough sheds, without siding, over the port holes of the barn, large enough to cover the dung-heaps and a large pile of muck. Every few days, after the stalls are cleaned out, let a man shovel an equal amount of muck over the pile of fresh manure. This will absorb the liquid parts and prevent "fire-fanging." And when this heap is finally shoveled over and mixed, the compost will be as valuable as an equal amount of simple manure.

We are continually hearing of farmers who *accidentally* learned the lesson we now teach. They now never think of leaving their manure "out in the cold." They know that the increased value of their manure annually is four-fold greater than the cost of their sheds.



Poultry—The Black Spanish Fowls.

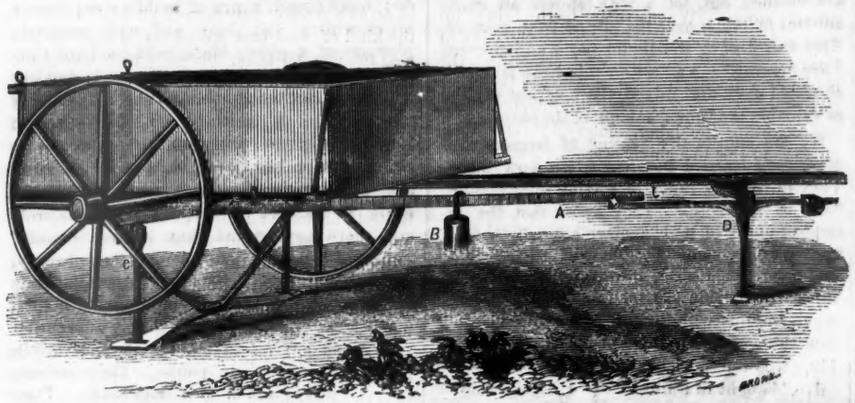
This breed of poultry is deservedly becoming popular in this country. It has long been reared in Spain and the adjacent countries along the Mediteranean, where it is said to have been introduced from the West Indies. Bement, in his Poulterer's Companion says of it: "The thorough-bred Spanish fowls should be entirely black, as far as feathers are concerned, and when in high condition display a greenish metallic lustre; an erect brilliant scarlet comb, serrated; with a clear milk-white face and ear-lobes; dark-blue legs; and a lofty carriage. Wattles of the hen small, but large and very conspicuous in the cocks, and like the comb, of a light scarlet. This marked contrast of black, bright-red, and white, makes the head of the Spanish cock as handsome as that of any other variety; and in the genuine breed the whole form is equally good. The cock-bird should be strong and short in the legs as possible; his back from tail to neck short, tail large and ample. He should weigh not less than six pounds; the head is rather large, the spurs long and sharp, and the bearing and carriage proud and high. The face should commence from where the comb joins on the head, and must extend downward over and around the eye till it meets the white ear-lobes.

Spanish hens are also of good size and good figure, and are celebrated as good layers, producing very large white eggs. The head of the hen should be neat, and of moderate size; eyes bright; comb single, very large and pendulous; face entirely white, the white extending around the eye; neck of moderate length, neatly set on; body broad, wings of middle size; legs a bluish-white; tail long and well squared; plumage of a glossy black, with brilliant tints of green and purple, as in the cock, but less brilliant. Her weight should not be less than five pounds. It must be especially observed that the slightest approach to coarseness, in either cock or hen, must be discountenanced, even at the expense of size; for in no class of fowls is fineness of quality more requisite and more appreciated than in the Spanish."

These fowls are favorites for their beauty, their excellent flavor of flesh, and their prolificness as layers. Such is their indisposition to sit, that it is advisable to depend upon hens of other breeds to rear their young. They are subject to one or two drawbacks. Their large combs are apt to be frosted during our northern winters, unless the birds are kept in warm quarters, and without proper care, mortification and death may ensue. They also are liable to lose their plumage, and if they moult late, they suffer from exposure.

Look After the Cabbages Early.

The importance of the cabbage as a field crop has hardly begun to be appreciated in this country, while in England, it ranks second only in value to the great root crops. As a food for fattening animals and as a change of diet for all, cabbages are highly esteemed. The crop is liable to the attacks of both insects and disease. The most common pest is the aphis or cabbage louse. If the plant is vigorous, it will soon outgrow its attacks. The sprinkling of ashes or air-slaked lime over the plants is recommended as a remedy. Mr. M. Scougale, of Mich., writes to the *Agriculturist*, that he has found it beneficial to sprinkle salt over the cabbages. Soon after the plants are set out, the cut-worm makes its appearance, taking off the leaves and sometimes the entire plant. The only remedy is to search for it just beneath the surface. It shows its tracks in the fragments of leaves, and the hole by which it has entered the soil. After the plants are out of the way of the cut-worm, they are preyed upon by the caterpillars of several species of butterflies. These, when young, are close together upon the outer leaves which may be broken off and the caterpillars destroyed. If over-looked until they get larger they become scattered, when hand picking must be resorted to. Cabbages are liable to a disease called club-foot, which shows itself in large swellings, or excrescences upon the root. This is by some supposed to be caused by insects, and by others regarded as a disease of the plant resulting from poor culture, and that the insects found accompanying it, are there because they find a favorable place for their operations, and are a result rather than the cause of disease. The only remedy that has been proposed for club-foot is to cultivate on land which has not been occupied by cabbages or any of the family for several years. In Massachusetts, where the culture is, perhaps, carried to as great perfection as anywhere else in the country, the best growers do not plant cabbages on the same land oftener than once in three or four years. In setting out the late crop this hint should be followed.

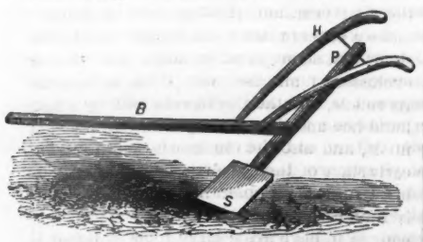


A Cart Weighing Machine.

Mr. J. S. Taylor, of Danbury, Conn., has left at the office of the *Agriculturist* a model of an apparatus which may be readily attached to a cart for the purpose of weighing the load. The engraving will give a general idea of the arrangement, though to exhibit it more distinctly, would require a separate engraving of the apparatus detached, for which we have not room. A long lever or scale beam, *A*, carrying a movable weight, *B*, is fixed upon a support or fulcrum, *C*. The whole is clamped by thumb screws to the axle of the cart in such a way that the weight comes upon the short arm of the lever, *A*. At *D*, is a compensating lever to hold the weight of the tongue. The supporting frame under the axle and the leg at *D*, are so arranged as to be turned up out of the way and allow the cart to be moved from place to place. When it is wished to weigh the load, these can be let down and the weighing performed. It is claimed that this apparatus will be found useful in weighing produce, etc., in those neighborhoods which have no large scales.

A Corn Coverer.

A "Prairie Farmer" sends to the *Agriculturist* a sketch and description of the implement illustrated below, designed for covering corn on smooth mellow land. This may be new to some readers; it has been for a number of years in use at the West, where it is called the "jumping shovel." The beam, *B*, is of 2x2½ inch stuff, 4 feet long. This is mortised into the post *P*. The latter is 2x2 inches, and 2 feet 9 inches long. The mortise to receive the tenon



of the beam is 1 foot from the lower end. The two are held together more strongly by a ½ iron brace under the beam. A 1 inch augur hole is bored 3 or 4 inches from the upper end of the post to receive a round brace which is fastened to and supports the upper end of the handles *H*. These are ¾ by 1 inch, in size, long enough for convenience, and bolted to the sides of the beam. The shovel *S*, is bolted to the lower part of the post. It can be made from an old ditching spade, or a piece of steel 8x10 inches. It should have a straight edge at the bottom. To use the implement, the ground is first marked out both ways, two boys are employed to drop the seed, and a man follows with the coverer drawn by a horse. The shovel is kept in the furrow, gathering earth as it goes, and is raised a little at each hill, throwing the soil over the corn. The maker says that with a little practice a man can cover five acres in this manner as well and as quickly as one acre could be planted with a hoe.

Profitable Corn Raising in Connecticut.

In the Spring of 1862 the writer commenced preparing a newly purchased field of twenty-three acres, to be planted with corn. Most of the field was an old pasture lot, much grown to cedars and briers, stony, with a northeastern exposure; the remainder was mowing land, separated from the former by a deep ravine. We commenced operations by removing the division fences, clearing the cedars and stones, under-draining the wet portions, and plowing it all deep and well. Some parts that had never before been plowed, cost from $6 to $8 per acre. It was manured with 800 lbs. per acre of Quinnipiac Co.'s Fish Guano, sown broadcast and harrowed in. Harrowed the field three times and brushed over once, marked the rows three feet nine inches apart each way, dropped in the hills a small handful of manure made by composting fish guano with soil, planted the corn with a hand corn planter, and covered with a hoe.

As soon as the corn was up, which stood very even, the ground was thoroughly stirred with a cultivator going each way, which was repeated three times during the season, and it was twice hoed by hand. The corn looked remarkably well, retained its dark green color, until very late, and ripened to perfection. An account of expenses was carefully kept each day, and the labor being all hired and paid for, prevented any difficulty in knowing the exact amount. Thus:

17 1-10 days plowing $3 per day	$ 51.30
7 days harrowing $3 per day	21.00
1 day bushing $3	3.00
10 7-20 tons fish guano $33½ per ton	344.96
12½ days sowing $1 per day	12.50
2½ days marking out $2.50 per day	6.25
8¼ days manuring in hill $1 per day	8.25
3⅛ bushel seed corn $1 per bushel	3.12
11½ days planting $1 per day	11.50
Protection from birds	2.37
21 days cultivating	46.75
36 days hoeing	38.25
Interest on cost of land	50.00
Total expenses of crop	$599.25
By 1000 bushel corn $1 per bushel	$1000
Net profit on the crop	$400.75

The cost of harvesting is not taken into account, neither the value of corn-fodder, one is expected to balance the other. The yield was determined by careful estimate, made when the crop was gathered, and by what has since been sold, and is considered below, rather than above the actual amount. The price given, has been received per bushel of 56 pounds. The wood paid the cost of clearing the brush off the land, and the increased value will more than balance the expence of draining. Let Western farmers beat it, if they can. HALL DICKERMANN.

New Haven Co., Conn.

[We'll agree to turn out any number of western farmers who will beat this, if Mr. D. will take the corn at half the price he names. The best corn has occasionally sold here the present year at $1 per bushel, but 60 cents per bushel is as high as it will do to calculate upon. Many farmers upon the western prairies would get rich very soon, if they could depend upon 25 cents per bushel, one year with another. We do not make these remarks to discourage planting corn, nor to depreciate the experiments of Mr. D., but as a rule, eastern men, especially in New England, put too high a price upon their farm products, when reporting upon farm operations. Being nearer the market for consumption, they obtain much higher prices than western farmers, and can afford to work poorer land, and expend more in tillage and manure. Still, western men would find it pay better to go over less surface, or by better cultivation get the same amount of crops from smaller areas.—ED.]

What Kills the Squash Vines?

Several correspondents have written to the *Agriculturist* that their vines were destroyed last year to such an extent as to discourage them from attempting to raise squashes. One succeeded in ripening only a single Hubbard Squash from a packet of seeds sent from this office. The vines, apparently in full vigor, suddenly die, and when cut open, are found to have a worm or borer near the root. The destructive worm is the larva of a rather pretty insect, called *Trochilium cucurbitæ*, or Squash-vine Borer. We give an engraving of the perfect insect from

a drawing kindly furnished us by Prof. Glover, the entomologist of the Department of Agriculture at Washington. The fore-wings are black and the second pair transparent; the body orange colored, and the hind legs furnished with long fringes. The insect deposits its eggs, which are very minute, from June to August on the stem of the vine near the root. The larva penetrates to the interior of the stem, and by eating away the substance kills the plant; after it reaches its full size, it enters the earth and forms a coccoon of a gummy substance covered with particles of earth, from which the perfect insect issues the following summer. These are the habits of the insect, and as will be seen, it is a difficult one to exterminate, as its presence is not suspected until the mischief is done. If the moths are seen flitting about the vines, every effort should be made to entrap them. The vines should be examined daily, and if any one is observed to droop, the larva should be searched for in the stem near the roots and cut out as carefully as possible, hilling earth around the stem, so as to cover the wound. If a vine is killed, care should be taken to destroy the insect which has done the mischief, to prevent multiplication.

For the American Agriculturist.

A Finality on Rats.

No pests are more annoying to the farmer and housekeeper. The destruction of property by them in the aggregate, is enormous. Many a farmer loses more by rats than the whole amount of his taxes. They burrow under the pig-trough, and come as regularly for their feed, as the pigs themselves. They share the food of the poultry and the horses and cows, if they are grain fed. They show themselves in the barn and house cellar, and devour the roots stored for Winter use. Thus there is a continual waste, and the amount in the course of the year is very large. But this is not the worst part of it. The scoundrels are so cunning that they outwit us, and evade every effort to oust them. Set traps for them, and you rarely catch more than one in a place. Stop up their holes, and they dig new ones. Set poison for them, and after a single night's experience the survivors will not touch it. A few are killed but all their neighbors come to the funeral and occupy their places. Put your cat in the barn, and they only withdraw to the house cellar. Put her in the cellar, and they flee to the barn. Occupy both with cats, and they flee to the corn crib. Wherever there is a chance for depredation, there the rats do congregate and multiply with astonishing rapidity.

What can be done? There is no effectual remedy but to make your buildings rat proof. The corn crib is easily insulated from rats and mice, by setting it on four posts capped with inverted tin pans, or large flat stones. The posts should be three feet high and the steps to the door should be movable, and should be taken away whenever the door is shut. But other buildings with cellars must be cemented on the bottom, and have the walls pointed with mortar in order to exclude them. This work fortunately is easily and cheaply done, and no man need go without a cemented cellar bottom for lack of skilled labor to do the job. He can do it himself. The articles wanted for the mortar, are sand and common water lime, which sells ordinarily in the New-York market from $1¼ to $1½ a barrel. Builders and masons in our large towns and villages, generally keep it on hand. The sand should be as pure a silex as you can find, and if the grit is coarse, so much the better.

To make the mortar, take two parts sand to one of cement, and mix thoroughly in the dry state, then apply just water enough to have it work well, and lay upon the cellar bottom with a trowel an inch thick or more. Only so much should be mixed, as you can use immediately.

If you do not wish to employ the mason, you can make your work rat proof without him. First prepare your cellar bottom by making it level, and ramming it so that it shall be as hard as a foot path, then apply the mortar and smooth it with a trowel. The thickness of the cellar bottom will depend upon the use you design to make of it. If you wish to drive a cart over it, as is necessary sometimes in large barn cellars, it should be at least four inches in thickness. In this case it is well to mix with the cement, gravel of the size of hens' eggs or smaller. If it is a cellar bottom, simply to hold manure, or to store roots in, an inch in thickness is just as good as more. In this case you should dig a trench say four inches deep by three broad, immediately adjoining the cellar wall on all sides and fill it with the mortar. The point of danger is immediately by the wall where the rats seek to enter. This also may be mixed with sifted gravel stones. When their teeth bring up against the gravel, it rather blunts the edge of their voracity. The expense of cementing the cellar of a common sized house, say thirty by forty feet, will not be over ten or fifteen dollars, not counting the labor. Many a farmer loses more than this in a single season. The cementing is a work done for life and we have found it to be very effectual. CONNECTICUT.

["Connecticut's" suggestions are good, irrespective of cemented bottom cellars being proof against rats. Unless, however, the walls and the earth outside are made solid with the cement, the rats will do more or less mischief outside the walls.—In the April *Agriculturist*, page 119, we referred to using a "phosphorus salve," bought in Fulton-st., (we forget the name and number,) and are glad to report that the rats and mice are still absent. Not a dead one has been seen, or "smelled," and we conclude they went elsewhere. The remedy proves so effectual, even in our buildings which contain so many inviting seeds, that we shall advise Mr. Lane, of the Purchasing Agency, to hunt up the material, and advertise it in this number.—ED.]

Talks About Weeds.

Perhaps few persons have taken into account the immense labor, expense, and care involved in the destruction of weeds. A large proportion of all the work required in the cultivation of the hoed crops, arises from the necessity of keeping these pests in proper subjection. If weeds did not grow, we could dispense with half of all the labor now expended in growing our thousand million bushels of Indian corn; and so of the turnip, the onion, the tobacco, the cabbage, etc., and of nearly all garden products. This subject is so important, that we deem it worth while to devote a few chapters in the *American Agriculturist* to the discussion of the habits of the principal weeds, with hints upon the best modes of exterminating them. And first, a few general considerations.

We have many letters inquiring how this or that particular weed may be killed; the mistaken idea being that there are specific poisons for the destruction of the different noxious plants. A weed is any plant which grows where it is not wanted, no matter whether it is in itself beautiful, or useful, or not. Rye, a useful plant when grown by itself, is, when mixed with wheat a troublesome weed; and many of our choicest garden plants are weeds in other countries, while some of our common weeds are cultivated elsewhere for their beauty. Weeds are subject to the same laws of growth, and flourish or languish under the same conditions as other plants; any destructive agent or poison that would kill them, would destroy the useful plants also. In cultivation, to serve our own purposes, we place certain plants in an unnatural condition—a condition which alone makes them valuable to us. We all know how perfectly worthless the common carrot, parsnip and turnip become if allowed to run wild, and doubtless without the care of man, a majority of our cultivated plants would become equally valueless. A given space of soil can sustain only a limited number of plants; those of a naturally strong growth, or which find the locality favorable to them, live and flourish, while the weaker ones or those unsuited to the locality, are killed out by the greater vigor of the others. This is the *natural* state of things. Cultivation gives a plant the best possible chance to develop itself, and to do this we not only supply an abundance of the kind of food best suited to its growth, but also remove all other plants which would interfere with it, and thus give it full possession of the soil, and relieve it from the necessity of struggling with competitors. In preparing and enriching the soil for the desired plants, we at the same time adapt it equally well for those not desirable. If a field is planted and left to itself, all have an equal chance, and the probability is, that the undesirable plants, or weeds, will either obstruct the growth of the cultivated plant or kill it out altogether. In cultivation we must not only give our plants the best chances as to food, but must also see that they have full possession of the soil prepared for them. The practical part resolves itself into two questions: how do weeds get into the soil; and, being in, how are they to be exterminated. We must recollect that nature makes abundant provision both for the reproduction and the preservation of every plant, no matter how insignificant, or troublesome even, it may be, and we can not work for the growth or the destruction of any plant unless we understand its peculiarities and treat it accordingly. Take any field which we wish to cultivate, and plow it up; if left untilled, it will be found that there were already seeds enough in the soil to completely cover it with vegetation. If we manure the field, a host of seeds will be introduced in the manure. Not only this: numbers of plants of the thistle family have their seeds furnished with down, and every breeze will bring hundreds of them from the neglected field of some careless neighbor; cattle and sheep may bring them in their hair and wool; even the workmen will bring them attached to their clothing, and birds will deposit them in their excrements. If the field is where it is overflowed by freshets or where it receives the wash of other lands, multitudes of seeds will be brought in by water. It will be seen that there is abundant provision for seeding the soil to weeds. As already hinted, the vegetation which first gets possession of the soil, tends to keep other plants out, hence it will be seen that the early destruction of weeds tends to give the crop the advantage; this of itself, is a great point gained.

Weeds have three general modes of growth: 1st. The *annual* weeds, or those which start from the seed and perfect themselves the first year, like purslane and shepherd's sprouts: 2nd. The *biennial* weeds, which pass the first year in making strong roots that bloom the second year and die, as the wild parsnip and carrot: 3d. The *perennials* that may or may not flower the first year, but which keep on growing and make a strong mass of underground roots and stems that soon get possession of the soil to the exclusion of all other vegetation, as the Canada thistle, and the docks. The free use of the hand hoe and the cultivator will destroy the annuals, and also the others while they are in the early stage of their growth. It is only when the last two sorts get possession of the soil that there is any serious trouble. When they are old enough to have made large roots or tubers they then have a store of material from which they can throw up numerous shoots; and this they do so frequently and so rapidly as to give the impression that it is impossible to kill them. Any of these plants will die, if not allowed to produce leaves. Frequent mowing or, if not too numerous, cutting just below the surface of the ground will ultimately exterminate them. The underground supply of food which these plants have stored up, must give out, if it be not replenished by the growth of leaves. If the cultivator

only persevere, the conquest is certain. Weeds of whichever class, should not be allowed to perfect their seed. A single weed that goes to seed, provides for incalculable labor in the future. (See interesting figures in the next article.) With these considerations we leave the subject to take up some of the weeds in detail, at another time.

Multiplication of Weeds—Interesting and Instructive Figures.

Did the reader ever make an estimate of the rapidity with which plants multiply, especially those classed as weeds? A few years ago, while detained several hours at a railroad crossing in Pennsylvania, by the failure of a train, we went into a neighboring cornfield, and pulled a single stalk of the Ragweed (*Ambrosia artemisiæfolia*) so common in some parts of that State, and sought amusement and instruction in counting the number of seeds. Sorting the average sized spikes, and counting the seeds on several of each, we found the number of perfect seeds grown that year on a single plant to exceed 16,000! Suppose each of these seeds to be scattered and grow, and go on multiplying: in the short space of only *four* years the number of plants growing would be 65,536,000,000,000,000, or about a dozen plants for every square foot of the entire earth's surface—land and water included. But suppose we take the average annual multiplication at only 100, which is far below the average increase of most weed plants. At a hundred a year, a single seed would in the tenth year produce 1,000,000,000,000,000,000 plants! This is equivalent to 111 plants for every square *inch* of the entire earth's surface; or 444 plants to every square inch of land, if we take the usual estimate that three-fourths of the surface is covered with water. Let the readers of the *American Agriculturist* apply these figures to their own farms or gardens, and estimate how long it would take a single weed seed to produce plants or even seeds enough to carpet the whole surface. They may then appreciate the importance of not allowing a single noxious plant of any kind to perfect its seed.

Arithmetical Note.—If we estimate the earth to be a perfectly round globe 8000 miles in diameter the following figures give contents and surface:

Solid Contents *in Cubic miles*	268,083,200,000
Surface or Area..*Square miles*	201,062,400
Surface or Area..*Square feet*	5,605,298,012,160,000
Surface or Area..*Square inches*	807,162,913,751,040,000

Transplanting—Why, and How.

This is the month in which many of the plants in the kitchen and flower garden will be transplanted; that is, removed from the place in which they were sown to that in which they are to perfect themselves. As nothing of this kind happens to plants in their wild state, it may be asked if this is not an unnatural operation. To this it may be replied, that all cultivation is in a measure unnatural; it consists in giving the plant those advantages which it can only enjoy under the care of man. We take advantage of certain capabilities and tendencies of plants, and direct them to serve our own purposes. When we dam a natural stream and make an artificial pond, we alter the course of nature, but in order to do it successfully, we must work in strict accordance with natural laws. So in cultivation, we induce a plant to grow differently from what it would if wild, but in doing this we follow the laws which govern its growth in the natural state. We do not oppose, we only direct. The leaves and roots of a plant bear direct relation to one another; if from any natural or artificial cause the root-growth is cramped or checked, the leaf-growth is correspondingly diminished, and the plant shows a greater tendency to produce flowers and fruit. Tomatoes in pots will show blossoms when only a few inches high, while if sown in the open ground they will make quite large plants before they show any signs of flowering. Now transplanting, no matter how carefully it may be done, by breaking off the minute root fibers has a tendency to hasten the maturity of the plant. It does this in a less striking manner it is true, than when the plant is grown in a pot, but it greatly modifies its development, and flower and fruit are borne much earlier. This tendency to early maturity is sometimes increased by two removals; the plants are taken from the seed bed and "pricked out," as it is called, into another bed, from which they are finally removed to the place where they are to mature. Each removal breaks off and shortens some of the branches of the root and, after the first shock is over, new small fibers or feeders are thrown out which, from their increased number, enable the plant to grow with much greater vigor than before, and mature much earlier than it would have done if left to grow where the seeds were sown. Sometimes there is an advantage in clipping the long or tap root in order to induce the formation of fibrous roots. As the functions of the roots are disturbed in transplanting, it follows that the relations between their absorbing surface and the evaporating surface of the leaves are broken up; the plant gives off moisture by the leaves more rapidly than it is received by the root, and the plant wilts. This indicates that a moist atmosphere is the most suitable time for the operation,—a "drizzly spell," when the soil is not too wet. It frequently happens that the plants are getting too large and there is no prospect of a damp season. Transplanting can be done, with proper precautions, at any time. For several years past we have been accustomed to work without regard to the weather and have been uniformly successful. If the holes are well watered and the plants are shaded for a day or two, they rarely fail to do well. The shading is easily done with a handful of cut grass, a burdock or other broad leaf, or a shingle stuck in a position to ward off the sun during the hottest part of the day. Where the plants are few and stand thinly in the seed bed, each may be carefully lifted by the trowel so as to retain a ball of earth around the roots, and removed with comparatively little disturbance; but where there is a large garden this particular care can not be exercised—all the operations must be carried on in a wholesale way. Where many plants are to be removed, they should be carefully lifted from the seed bed, separated and "grouted." Grouting consists in coating the roots with thin mud, which protects the delicate fibres from drying, and should always be done where the plants are to remain for some time out of the ground. The directions for grouting plants can not be better given than by quoting from Watson's American Home Garden, which by the way is one of the most reliable and practical works ever published in this country. (Price $1.00.) "Grouting is performed by mixing rich earth, to which cow dung may be added, with water, to the consistence of soft mud, and dabbling the roots of the plants in it, not by thrusting them through it, but rather by drawing them through it, or, as it were, striking them upon it until each root is loaded. A dozen plants may be grouted at once; and as they are held in the hand preparatory to this process, an inch or two of the root end may be cut off." In transplanting in the large way, labor can be profitably divided: one hand can make the holes with a trowel, another can drop the plants, and one or two may follow to set them. The plant should be set somewhat deeper than it originally stood, and the earth should be well pressed around the roots. If the transplanting is done in dry weather, the holes should be filled with water; when this has soaked away the plant should be put in and its roots covered with moist soil taken from beneath the dry surface. We always add a little dryish soil over the surface, especially if the earth used in filling be damp; the dry soil absorbs the surplus water, and keeps the mass from baking. We prefer making rather large holes with the trowel, to the use of the dibble, which in making the holes for the plant, packs the earth too closely for the favorable growth of its roots. The proper time for transplanting the different varieties is mentioned in the Calendar of Operations for each month.

How to Save Paper.

Those correspondents who write us long articles upon the way in which wheat may be converted into chess, and on the influence of the moon upon vegetation should, in these times of the high price of the article, save their paper. We can not publish such communications. Our position upon the chess question has long ago been defined, and although we have had much talk about the conversion of wheat into chess, we have had no proof that it has ever taken place. Let us have the specimens and we will submit them to the best authorities in the country, and if they decide that a specimen has grown part wheat and part chess, or is in an intermediate state between the two, we will give it up. Proof that chess grows where wheat grew before is no better evidence that wheat turned to chess, than finding a cow in a horse's stable is that the animals have been transmuted. Gentlemen troubled with chess upon the brain, please excuse us until you have some facts. Regarding the moon question, we are only sorry that this superstition exists among otherwise intelligent people. The weeds of error are some of them very tenacious of life. Melons and cucumbers are said to be particularly influenced by the moon. The *Agriculturist* advises to prepare the soil well, keep off insects, and put on liquid manure, and let the moon do her worst.

Fill the Missing Hills.

A vacant hill will be found here and there m the cornfield, at the first hoeing. Unless many of them occur together, they are quite likely to be passed by as of little account, but it is attention to small matters that marks the difference between carefulness and neglect, and not unfrequently here is the turning point between thrift and what is called bad luck. In most sections it will pay to replant missing hills with corn at the first weeding. In a favorable season it will come to maturity. Or pumpkin seed may be put in, which will yield choice morsels for animals next Autumn. It would be better to plant and cultivate these spots even without return, than to leave them to be occupied by weeds which will be sure to take possession, and ripen seed for a succession of troublesome crops.

GOING TO THE HAY FIELD.

Engraved for the American Agriculturist.

The above engraving, from an English painting, shows the bright side of Haying time in that country. The artist represents the whole family going forth to participate in the labors which are to transform the waving grass into stores of winter forage. The girls as well as the boys, will have a hand in the business, and their ruddy cheeks, when they return at night, will glow with the bloom which healthful exercise imparts. Even the baby is taken along to nestle and crow in a bed of new mown hay. Last season we saw many English haying scenes, none exactly like the above, but there were often gangs of thirty to fifty men and women all in one field, and when done there, they passed on to the next estate. The almost perpetual rains there, required much more "making" of the hay than in our dryer climate. We felt half tempted to set up the business of supplying "hay-caps," for we are quite sure they would be a god-send there. They pay with us, where much longer seasons of dry weather can be depended upon.

Were we presenting an American scene, we should perhaps show only two persons, one driving a mowing machine, and the other following with a horse-rake. Our labor-saving machines have in many sections of the country done away with much of the picturesque and poetical in hay-making; but we can afford to loose these if they bring us larger crops and in enlarging our home comforts help us to a higher civilization. Still, on many farms, especially in new countries, the scythe, the hand-rake, and the pitchfork are to be used in securing the great hay-crop,—great, for it is more valuable than cotton was in the best days of its reign,—great, for it is part of an ever present miracle, an intermediate stage between gross earthy material and life sustaining milk and meat.

It is not in Europe alone that women go into the field. In this war time, where the absence of men has made labor scarce, women, who are ever in advance of men in patriotism, take a share of the farm labor upon them. We have just now a letter from "Elizabeth," in Iowa, who says: "Last year I helped my father stack our hay, nearly twenty tons, and felt all the better for it. I am willing to work out of doors for years yet, and let my brother fight for our country. I would rather do it than that one star should fall from our glorious old Flag."—With such women as these to take care of the homes, who shall despair of the country!

HORSE PITCH-FORKS.—Next to the mowing machine and horse-rake, the horse pitch-fork will be found the most valuable labor-saving implement for the hay making season. Very good forks, with pulleys and ropes complete, cost about a dozen dollars, the interest of which is less than a dollar a year. With one of these, a load of hay is quickly and easily raised and deposited in the highest mow, by a horse. Several kinds are made, any one of which is better than none. Two good ones were advertised last month, and they may be in this paper.

Cultivation of Beans.

The small crop last year together with the great demand for the army and navy, have caused beans to bear so high a price that doubtless many farmers will be induced to give more attention to this crop than formerly. The common bean has run into a great number of varieties, but the white sorts only are raised for use in the dry state, though some colored ones are much richer. The principal varieties grown in the large way are the Blue Pod, Marrow, and Pea-Bean. The earliest of these is the Blue Pod, which is a favorite sort in New England, on account of its early maturity and prolific bearing. The Marrow, called also White Marrowfat, is a favorite sort, and by many preferred to any other for cooking. The Pea-bean, also known as the army or ship bean, is quite small and rounded, and is the kind more largely cultivated. The soil should be warm and light, and not too highly manured; almost any but a heavy clay soil will answer. The planting is best done as soon as danger from frost is over, but if put in any time before the last week in June, they are pretty sure to make a crop. They should be planted in rows about 2½ feet apart, or sufficiently wide to allow of working with the cultivator. They may be planted with the hoe, putting 3 or 4 beans in the hill at a foot or fifteen inches apart. There are bean drills which do the work expeditiously, some of which drop the seed in a continuous line, and others are so contrived as to plant in hills. From a bushel to six pecks are used for an acre. Though the planting is generally left until the press of Spring work is over, it is advisable to get them in as early as possible, both on account of having them out of the way of early frosts, and to have the land clear for Fall crops. Do not let the weeds get the start, but hoe as soon as they make their appearance. Ground that has been cultivated with beans, is in excellent condition for wheat.

Try a few Roots.

Were animals competent to advise as to what should be grown and stored for their winter sustenance, there would be a unanimous request for at least a few carrots, turnips, or beets, to be fed with the dry hay which must form the staple diet. This request should be freely granted—not merely in kindness to dumb creatures, though that is something. It makes a man feel pleasant to witness the welcome which attends the distribution of an occasional juicy breakfast to stock that have been longing for something succulent. Variety of food promotes appetite and growth as well as pleasure to the animal palate. It is also no small help to the hay mow and grain room to have a well filled bin of roots to draw from. Although a given weight of grain will add more pounds of flesh than the same amount of roots, yet a larger quantity of food per acre can be secured from the latter. Fifty bushels of corn is above the average yield; with fair cultivation twelve hundred bushels of mangel wurzels can be produced, and much more by proper manuring and tillage. But there is less need than formerly to urge the cultivation of root crops, particularly in the older settled portions of the country. At the far West where corn and hay are almost superabundant, these may suffice; but throughout the East the benefit of root culture is yearly being more highly appreciated.

There is yet time to put in a winter supply of ruta bagas, beets and carrots. White turnips are better left until July. Sugar beets and mangel wurzels should be planted *early* the present month. Carrots head the list for all kinds of stock, including horses; next we prefer beets; the mangel wurzel is most productive. All roots need rich, *deep* mellow soil. It is discouraging to an enterprising beet or carrot to plow its own way into a hard subsoil. Straggling roots here and there may find a small crevice in which to burrow, but the crop under such circumstances will be stunted and poor. A well tilled field occupied by corn the previous year will usually be a favorable location; a good dressing of old manure should be well worked into the soil. Much labor will be saved if the land be free from weeds. The first crop of these may be mostly destroyed by plowing early, allowing them to spring up, and then going over the whole with a cultivator harrow. The seed should be put in drills two feet apart for mangel wurzels, or ruta bagas, and sixteen or eighteen inches for carrots: nothing is gained by crowding the ground. At the first hoeing, thin the beets to one foot apart, the carrots to six inches. About four pounds of beet seed or two pounds of carrot seed per acre will be required. The after culture will consist in keeping the ground clean and loose. Almost the whole of it can be performed with the horse-hoe. It may not be advisable to commence largely at first, but we feel assured that those who commence with a quarter of an acre by way of experiment this year, will increase the size of the plot in future, particularly if proper attention be given to the first investment.

Interesting to Flax Growers.

It will be remembered that we published in the May No. of the *Agriculturist*, page 140, the decision of the committee of the N. Y. State Agricultural Society appointed to examine the various processes for the improved manipulation of flax, with a view to award the appropriation offered by the Legislature. It having been deemed advisable to retain the appropriation for another year, the Executive Committee desire to procure all possible information concerning the progress of flax culture and manufacture in this State. To this end they ask for communications from those interested, on the following points, viz.: 1st, The breadth of land sown with flax in the year 1863 in each town in the State. 2d. The amount of seed sown per acre. 3d. The amount of seed and straw raised per acre. 4th. The price received per ton for the straw, and for seed per bushel. 5th. Such other information relative to the culture of flax as the cultivator may deem essential. 6th. The amount of straw purchased by each factory, and the price paid for it. 7th. The purpose for which it was manufactured, as, for instance, paper stock, upholsterers' purposes, or flax cotton. 8th. The invention of any new machines for dressing flax. Letters containing information on the above points should be addressed to "Flax Committee, State Agricultural Rooms, Albany, N. Y." Such information will greatly facilitate the investigations of the committee into the important interest committed to their care, and will undoubtedly be cheerfully imparted by those of our readers in this State who are engaged the present year in flax culture, even though they may have just commenced on a small scale. The difficulties and observations of beginners are frequently of great value. Those just commencing often note points which are passed over as unimportant by the more experienced cultivator, but which are of great weight in determining the essentials to, and probabilities of success.

A New Humbug.

Most of the Humbugs by which operators seek to fill their pockets at the expense of the credulous, are old games, which have been so frequently exposed, especially in the columns of the *Agriculturist*, that only those who will not read are in danger of being taken in by them. Only occasionally a new scheme is brought to light. Here is one having the merit of some originality. A highly patriotic and philanthropic individual issues circulars announcing that * * * * "The proprietor of one of the most valuable and successful, as well as popular and indispensable 'FAMILY REMEDIES' known in this country, has resolved to dispose of and close up his extensive business, for the special benefit of our SICK AND WOUNDED SOLDIERS, and the Widows and Orphans of those who have sacrificed their lives, and those who may hereafter, for the Preservation of our Glorious Union! The entire net proceeds shall be given to the above named persons, throughout all the Loyal States, and the amounts to correspond as nearly as possible to the number of troops drawn from each; for which purpose he hereby offers and agrees to give the RECIPE with the right to make and use the same, to every Family in the United States, for the small sum of ONE DOLLAR for each family."

EXTRA INDUCEMENTS are offered: Immediately upon the close of the Enterprize a grand Octavo Volume is to be published, containing the names of the Donors in regular order. Those who give five dollars, shall have their names printed in capitals; those giving ten dollars are to appear in capitals, and have a copy of the volume splendidly bound; and those who are thus patriotic to the amount of a hundred dollars, are also to have their Portraits superbly engraved in steel for the volume, and receive twenty-five proof copies extra? He who gives the largest amount is to have his portrait, lots of books and proofs, and his biography printed in the volume. A numerously signed certificate sets forth that the Manager is a gentleman of unblemished character, possessing superior business capacities of the strictest integrity. This man's "business capacities" may be of "the strictest integrity," but we can hardly vouch for his personal honor. Happening to know one of the parties whose name was appended, we inquired into the particulars, and were informed that the certificates were signed in reference to another entirely different enterprize, apparently a legitimate one, and that the signer considered the present scheme a transparent *humbug*. How many will be induced to swallow pills, or apply a lotion, for the benefit of the poor soldiers? Probably not many readers of the *Agriculturist*. Those who are disposed to help the afflicted in their country's cause—and who are not?—will find abundant opportunities to do so without sending a dollar to an unknown adventurer, who appeals to the unworthy motive of vanity, by *promising* to exhibit their names in print with others who may have been similarly duped, and in case they have been largely "sold," to show their portraits to an admiring world.

A THISTLE PULLER.—Julius Meyer, Potter Co., Pa., eradicates thistles by pulling them out by the roots before blossoming. To save the

hands, he uses a pair of wooden nippers of 2 inch stuff, 3 feet long, with teeth fitting into each other. This will exterminate them if properly followed up. Where they are very numerous it would be a tedious undertaking.

Precautions Against the Weather.

Science has not yet enabled man either to certainly predict or to change the weather. Although in general, the succession of the seasons, seed time and harvest, are guaranteed by the Almighty Ruler, yet they are not alike propitious to all localities. At times the North is blasted with untimely frosts, while the South is fervid with sunshine; the East may be parched with drouth, while the West is rejoicing in refreshing showers. But the cultivator may do something to provide himself against such contingencies. First, by a mixed husbandry. If corn be stinted by continued rain, the grass in meadow and pasture will grow with unwonted luxuriance, and what is lost in the plowed field may be found in the cattle yard and the hay mow. He who depends upon wheat alone may grow rich if the snows of Winter and the rains of Summer are propitious, but he may also lose all when the seasons change their aspect, and are unfavorable. Thousands have paid a heavy price for the experience by which this lesson has been learned, and no longer trust to a single crop.

Draining is a most efficient regulator by which to counterbalance in some measure the effect of wayward seasons. If there be too great rain-fall, the water speedily finds an outlet from the roots which it would otherwise drown. If drouth occur, the porous soil is enabled to draw moisture from beneath, and also condense it from the air which can enter from above. Corn on a well drained field will pass safely through a soak or a drouth which would diminish, by one-third, the yield from an undrained compact soil. Frequent stirring of the soil, keeping it loose and light, is of paramount importance, especially in drouth. The rapid evaporation which goes on at the surface under such circumstances, cools the adjacent air, and causes it to deposit copious dew, and moisture from below will also be drawn upward to supply the wilting plants. If in addition to this, mulching be practicable, to prevent the too rapid escape of moisture, drouth may be resisted, for a lengthened period. This may be done in the garden and fruit yard, and to some extent in the corn-field, where straw or refuse hay is plenty.

It is less easy to keep grass lands in heart during drouth, and other measures should be resorted to where the stock of cattle is large, and the amount of pasture and meadow only just sufficient to carry them through a favorable season. A field of corn or millet should be sown the present month, to be cut and fed green in August and September. The latter plant resists drouth even better than corn, and an acre will yield a supply for several head of cattle during the period when drouths are most frequently injurious to pastures. There need be no loss, if the crop be not wanted to supply Summer deficiency. A feed from the soiling patch at night will make itself felt in the milk pail in the morning, and what can not be profitably used in this manner can be cured and used to advantage in Winter. There is always less difficulty in disposing of superabundance of feed, than in eking out a short supply, and the wise husbandman will endeavor to err on the safe side, if at all.

Cultivating Orchards.

It is a question much discussed of late, whether or no orchards should be plowed and manured and cropped. We have seen orchards both old and young, cultivated to their injury. If an old orchard is plowed deep, it is quite sure to tear up and break the roots; and this will be followed by blight and stunted growth. If a young orchard is plowed carelessly, not only will the roots of trees be injured, but the bark will be bruised by the whiffletrees, and the trees themselves be gnawed and trampled on by the horses. An old orchard *can* be plowed shallow, and little harm come from it; but as a general rule, the plow should be kept outside of its boundaries. If the land needs enriching and re-seeding, scarify the surface with a harrow, and give a dressing of old manure, scattering the seed where it is wanted.

A young orchard not only *can* be plowed safely, but it absolutely requires cultivation. One might about as well throw his young trees into the street at first, as to set them out in tough sward, and let them so remain. Perhaps most of them will manage to live, but they can not thrive. Plow the land properly, manure it well, keep the surface hoed clean of weeds and grass for six feet around every tree, and it will make more progress in one year, than a grass-bound tree would in three or four. This is no mere speculation; the experience of every year proves it. As the trees become large, and the roots ramify, let the plow be gradually withdrawn.

The Scale on Apple Trees.

Mr. Hardy, of Chenango Co., N. Y., has sent us a specimen of apple tree bark completely covered with the scale insect, and numerous other readers of the *Agriculturist* have written us concerning its depredations upon their trees, asking for a remedy.

The insect is believed to have been imported from Europe, and is especially troublesome at the West, the section from which most of our complaints are received. The figure will give an idea of the appearance of the insect at the present season. The natural size is from 1-10th to 1-8th of an inch, and they are frequently so numerous as to cover every portion of the trunk and limbs. The shape of the scale is so much like that of an oyster that it is sometimes called the "Oyster-shaped Bark-louse." It is known by Entomologists as the *Coccus conchiformis*, and *Aspidotus conchiformis*, the specific name—*conchiformis*, meaning shell-shaped. These scales contain the female, which dies after depositing her eggs. The eggs, which may be seen by carefully lifting the scale, are hatched late in May or early in June. The young insects are very minute; they move about for some days and then settle down and insert their proboscis or sucker into the bark, from which they draw their sustenance, and acquire their hard coat or shell. The females never leave the shell, but the males come out as small flies and have wings. These being, in brief, the habits of the insect, it will be seen that they can only be successfully destroyed soon after they are hatched, and before they acquire their hard and impervious scale. Various preparations have been recommended for their destruction; Harris advises the use of two parts of soft soap with eight of water, to which lime enough is to be added to bring the mixture to the consistence of whitewash. This is painted over the trees early in June, covering every limb and twig as far as possible. Mr. Kimball of Wisconsin, trims the trees thoroughly and then applies, with a paint brush, a mixture made by boiling leaf tobacco with strong lye, until it is reduced to a pulp, and then mixing with soft soap to form a paint-like compound. Mr. Smith, of Connecticut, uses a decoction of tobacco, aloes and soft soap, applied with a syringe. Prof. Glover, of the Agricultural Department at Washington, informs us that he succeeded in destroying a similar insect upon the Orange trees in Florida, by syringing them with a wash of soft soap, water, and a little guano. Another says that the use of mackerel-brine will prove effectual in destroying them. This insect has its natural enemies which destroy great numbers of them, still its increase in some sections is alarming; it needs vigilance and care just at the right time. We would thank any of our readers who have had success in exterminating the scale, to give us their methods and the results.

How to Raise Peaches.

It is a well known fact that peaches do not succeed as well as formerly. In addition to want of fruitfulness from the unpropitious seasons, the borers and yellows are making great havoc in many sections. Timely care and faithful labor will clear the trees from borers, but the "doctors" have not as yet found an "infallible specific" for the yellows. Of one thing, however, observing cultivators are pretty certain, namely, that the disease is perpetuated by planting pits from unhealthy trees; and that too many nurserymen use no discrimination in the selection of seeds, we have evidence in the barrels of pits of all kinds collected in the streets of this city, and sold to planters. For aught the nurserymen know to the contrary, nine tenths of these pits were from unhealthy or diseased trees. To such, and to all who wish to raise their own trees, we commend the following from the pen of Hon. Wm. Parry of New-Jersey, in the Hammonton Farmer.

"The peach tree does best on new land, and seldom if ever will yield a crop where peach trees have grown before. There are trees on the light, new lands of Atlantic Co., N. J., over fifteen years of age, in a flourishing condition, bearing annual crops of fine fruit. The proper method of raising such trees is to save seed or pits from trees which are perfectly healthy, free from yellows, borers, and all other defects that would tend to weaken the constitution of the parent stock. The pits should be planted in Autumn, and covered with two inches of sand, so as to allow them to freeze and thaw during the Winter. In the following Spring, about two thirds of them will open their shells, and the kernels may be picked out and planted in mellow land suitable for corn or potatoes, in rows four feet apart and six to eight inches in the row. They should be kept clean and well cultivated until the latter part of Summer, when they are in a suitable condition to bud with desirable sorts, selecting buds from *healthy trees.*

The young trees should be left to grow one Summer after budding, in the nursery rows, and the next Spring be set out on good mellow soil prepared as for corn, which crop may properly be grown among the trees the first year after setting out. In planting the trees, mark out the land in squares, twenty feet each way, by

running a light plow through, and set a tree at each crossing. Dig the holes twice as large and twice as deep as would just receive the roots in their natural position. The roots should be carefully examined, and all bruised parts cut smooth with a knife, drawing it from the under side out. The yellow subsoil thrown from the bottom of the hole is not to be returned around the roots, but mellow surface soil must be filled in and packed closely under and over the roots, so as to prevent any cavities remaining.

An orchard thus carefully set out must not be neglected. The ground should be kept mellow and clear of weeds by frequent stirring, the suckers and surplus branches trimmed off, and the ends of the most vigorous limbs shortened in so as to give a more compact head. If gum should be seen oozing from the stem near the ground, take a knife and remove the little intruder that is preparing to make its winter lodging under the bark.

Plant Evergreens.

No grounds, however limited, should be without evergreens, which are beautiful in Summer and indispensable in Winter. The latter part of May is usually the best time for planting, though the backwardness of the season will this year extend the time well into June. Indeed, with a little care they can be removed during the early part of June in any ordinary season. Recent introductions have increased the list of varieties so enormously that one is puzzled, in looking over the catalogues of the nurserymen, what selection to make. Most of the recent importations bear a high price and their hardiness in our climate is yet to be tested; and our advice is to leave experiments to those who can afford it and to stick to the old and well established kinds which are always satisfactory and can never become too common. The two evergreens which, from their ease of culture and intrinsic worth, are most popular, are the Norway Spruce and the Arbor Vitæ. They are easily transplanted, of rapid growth and, when well shaped specimens are chosen, are fine for the lawn and excellent for masses and screens. They will live in poor, and thrive in good soils, and will bear cutting as the cultivator may fancy. Nothing is more beautiful than a well grown specimen of our common White Pine, or Weymouth Pine, as it is called. The chief obstacle to its general introduction seems to be its nativity. If it were brought from a distance and sold at a very high price, it would be more generally sought after. Then there is the common Hemlock (*Abies Canadensis*), than which few evergreens are more beautiful. It is unfortunately rather impatient of removal, but it is worth while to take special pains to secure so fine a tree. The Austrian, Scotch, and Cembrian pines make noble trees, and the Pigmy Pine (*Pinus pumilio*) and the Irish and Swedish Junipers are desirable for small grounds. At any time, and especially in late planting, the greatest care should be taken to prevent the roots of evergreens from drying. They should be kept well covered from the moment they are out of the ground till they are replanted. Where it is practicable, the holes should be prepared beforehand, adding peaty earth if the soil is of a sandy character, and then wait for a cloudy day upon which to take up the trees from the nursery. Large stones laid over the roots are better than stakes; besides holding the tree in place they will act as a mulch to prevent the soil from drying out.

Basswood Bark for Tying.

Every nurserymen and gardener know that the Bass or Russia matting is the best possible material for tying up plants, binding buds, and many other purposes. The Russia article is frequently scarce, and is always difficult to procure by those who live far from cities. The want can be readily supplied from our native Basswood or Linden which is abundant throughout the northern States. Young and vigorous trees should be cut down during the present month and the bark stripped off. This is to be put into a stream or pond of water until the inner bark is readily separable in layers, which will be in two or three weeks. When the bark parts readily, it is to be taken from the water, carefully separated, a layer at a time, and then washed to free it from mucilage, and dried. There will be found a considerable difference in the strips. The finest should be selected for tying buds and other delicate work, and the strongest and thickest left for coarser purposes.

A Perfect Hedge.

A perfect hedge is seldom seen in this country. Our people are in too much haste to see results, too impatient of the needful labor and cost, to build up a good, durable hedge, one that will turn cattle, and be a real ornament to any farm or residence. Consider, a moment, the conditions of such hedge building. The line must not run beneath the drip and shade of trees, or among their roots. The land must be good, or be made fertile by manure. The plants should be properly set out, the ground tilled and kept free of weeds for several years. And yet, how few enrich and cultivate soil along their hedge-rows, after the first year! Equal in importance to this, is thorough and systematic pruning every year. The majority of hedges are allowed to grow up several feet before they feel the shears at all. Of course, they become lank and bare at the bottom, where they ought to be bushy and strong. They are shaped more like the letter V, and must always remain so, while they ought to be more like that letter inverted, Λ. They should, *from the start*, be cut back every Spring to a foot of the new growth: i. e., the hedge should be allowed to gain in hight only one foot each year. The sides should be slightly trimmed, by all means keeping the lower branches broader than those above. The pruner should always keep in mind what the final shape of the hedge is to be. The inverted Λ seems to us a little too sharp, and we should advise rounding the sides a little, making it resemble a straw bee-hive, or rounded cone.

After the hedge is brought to its required hight, say of four to six feet, it must be pruned at least once in mid-summer, to check its growth. Now, there are only a few persons who will take all this trouble, and this is a sufficient reason why we see so few good hedges.

Another reason lies in the defectiveness of our hedge-plants. The English hawthorn, so excellent in that moist and equable climate, does not generally succeed with us. Several of our native thorns have been tried, but where the hedge becomes full grown, and it is necessary to summer prune it, the leaves turn yellow and the plants become sickly. In a few sections, as about Wilmington, Delaware, the Cockspur is reported as doing well. The Osage Orange answers a good purpose south of the latitude of about 40°, but is not sufficiently hardy at the north. The Three-thorned Acacia is now being extensively tried. It is hardy and thorny enough, but as it is a very rampant grower, it is by no means certain that it will bear the severe summer pruning necessary to keep it within bounds. And would our busy farmers find time to do that work? The Buckthorn comes the nearest to being a perfect hedge-plant in all respects but its thorns. It is hardy, not over-rampant in growth, for, unlike the Locust, it is a *bush* rather than a *tree*, bears shearing well, and is subject to no diseases or insects. It will answer for a strict barrier, if one will take the trouble to set a low and light wooden fence on the exposed side, made of only a single board, four or five inches wide, running from post to post. Paint this board green, and it will hardly be noticed. The White Willow is now creating quite a sensation at the West. Whether it will make a perfect hedge, is yet quite uncertain, but time and experience will determine.

The Best Native Gooseberry.

This is the Houghton Seedling. It is not of the first class, as compared with the foreign sorts, but it is the best American, seldom mildews, is hardy and prolific. Its origin is interesting. Some thirty years ago, Mr. Abel Houghton, then of Lynn, Mass., set out in his garden four of the best English sorts in a circle, with a native variety in the center. They all flowered and fruited the second year. He sowed the seeds indiscriminately, and where the plants came up, he transplanted them by the hundred into rows. In five years, they came into bearing, but nearly every one suffered from mildew. He saved the best and threw away the worst, and finally the sort known as Houghton's Seedling was the only one which proved worth saving and propagating. All honor to Mr. Houghton. *Honor*, indeed, he should have, for it is said that he has made no *money* by his long experiments.

Strawberries.

This is the harvest month for strawberries, and the time when the fruit is in perfection is the proper one in which to plan for new beds. While to many, one strawberry is as good as another, those of larger experience know that this fruit presents a great variety, not only in flavor and relative sweetness, but in the size and hardiness of the fruit and the vigor and prolificness of the vines. The best berry for the table is not always the best one for the market; firmness of flesh and abundant bearing are for this purpose the most important qualities. Though we may have many very fine varieties, perfection is not yet attained, and every year there are new claimants to superiority over old varieties. It is no doubt possible that the efforts of cultivators will yet produce a fruit which will combine all the excellences of the best known varieties. Now is the time for those who intend to plant in the coming Autumn or Spring to visit the grounds of cultivators, or fruit exhibitions, and make observations for themselves. We expect that the exhibition which will be held at the office of the *Agriculturist* will present the finest collection of strawberries ever seen in this country, and those who attend it will derive much information. We shall publish some reports of the discussions of strawberry growers upon the merits of the different varieties, for the benefit of those who cannot attend the exhibition and the meetings.

The Strelitzia reginae.

A fine specimen of this old but little known plant, from E. Janes, Esq., of East Morrisania, N. Y., has been on exhibition for some weeks at the office of the *Agriculturist*, where its tropical looking foliage and very curious flowers have been admired by a throng of visitors. The plant is about 3 feet high and has four strong shoots, one of which has been figured by our artist. The *Strelitzia* was first introduced into England from the Cape of Good Hope nearly a hundred years ago. Its name was given to it in honor of the wife of George III., who belonged to the house of Mecklenburgh-Strelitz. The plant belongs to the same family as the Banana, and its leaves resemble those of that plant, though they are much smaller. The manner of flowering is very singular; a long green sheath is borne at the end of the flower stem, this bends to a horizontal position, and from a slit in its upper side the flowers rise one after another. From their gay color and peculiar shape, the plant is called by some the "Bird of Paradise."—The three under portions of the flower are of a golden yellow, and the narrow or central part is purplish blue. Each flower continues for several days, and is succeeded by another which rises out of the sheath.

For a long time it was cultivated as a hot-house or stove plant, but it is now found it will grow well in the green-house or as a house plant, as it will live in any room, where it is protected from frost. The objection to its general introduction as a house plant is the slowness with which it is propagated. It is multiplied by suckers which it throws up very sparingly, and by seeds which are only formed by artificial impregnation of the pistil. It will grow in any good soil and should have a period of dryness and rest after flowering.

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Arranging Bouquets.

We have letters from several correspondents asking us to give directions for the arrangement of flowers in bouquets. As this is a matter that depends so much upon individual tastes, it is difficult to give any precise directions, though there are a few general rules which may be followed. The beauty of a bouquet depends upon its form and color. The regular bouquet makers seldom use flowers upon their own stems; the separate flowers are each fastened to a splinter of broom corn by means of a bit of fine wire. Thus furnished with a strong and elastic stem, the flowers can be made up with greater ease than when upon their own stems. Bouquets made in this way are of course not benefited by placing them in water, but they retain their freshness in a remarkable manner if occasionally sprinkled. A light and graceful appearance should be given by means of little sprigs of small flowers which should project beyond the general surface. A general fault in bouquets, is a deficiency of green; all flowers appear better in contrast with foliage. The Ground Pine (*Lycopodium dendroideum*), is one of the greens most used by the bouquet makers. Sprigs of asparagus are used with very good effect; any good green that does not readily wilt may be used. In regard to colors, the laws of contrast must be observed. A bouquet made entirely of yellow, red, and orange colored flowers would not be pleasing, for these are all harmonious colors. White flowers are very useful as they contrast with every other color. Red and blue do well together, while the effect of purple is weakened by either of them. Yellow and blue should be contrasted with white rather than with strong green. Neither red nor yellow should be put near orange. A little practice will enable one to combine the colors in the most effective way.

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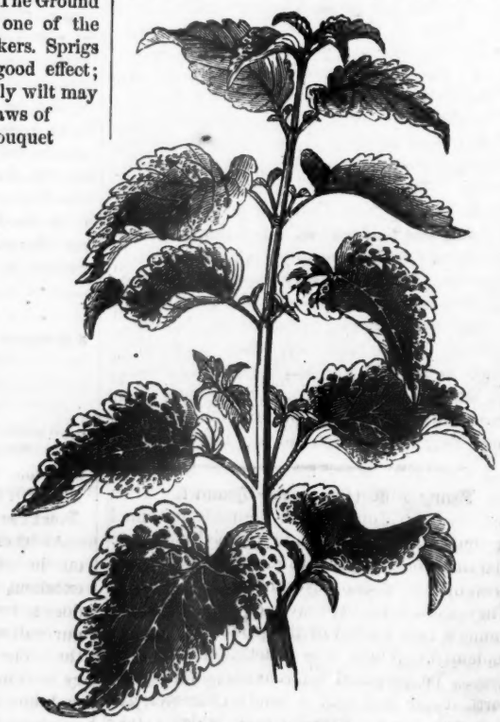
VINES IN THE FLOWER GARDEN. The introduction of vines and climbing plants into a garden gives it a gracefulness and variety which can come from no other method. By this plan, we not only have the ground covered with verdure and bloom, but the air also is filled with them. It is surprising to note what pleasing effect may be produced by simply setting up a few cedar poles, 6 or 8 feet high, and covering them with some common vines, like the Morning Glory, of different colors. Set two or three within a few feet of each other, and extend stout cords from the top of one to the other. The vines will cover these cords and hang down in graceful festoons. Instead of poles, one may make ornamental frames or arbors, and cover them with a great variety of vines. The result will be every way satisfactory, and the whole need cost little time or money.

Plants with Variegated Foliage.

For a long time the striped or ribbon-grass of our grandmothers' gardens was the only variegated leaved plant in common cultivation, but now we have, under the rather absurd name of "foliage plants," a great variety, some of which are very beautiful. Many of the rarest ornaments of the green house are prized for their foliage rather than their flowers and we have annuals, perennials, and shrubs, and even trees the leaves of which are either wholly or in part of some other color than green. Japan seems to be very prolific in plants of this kind, and we have from there recently a Honeysuckle, an Arbor Vitae, and a Gingko with variegated leaves. Among the bedding plants of this character, *Coleus Verschaffeltii* takes a very high rank. We give below an engraving of a young plant, but it is impossible to properly represent its beauty without the use of colors. The leaves are pleasingly variegated, the lighter portions being of a tender green, while the markings are of a rich maroon or brownish purple color. This most desirable ornament to the flower border is to be had at the large horticultural establishments, but as yet bears a high price. From the ease with which it grows from cuttings it will doubtless before long be very abundant and cheap. Among annuals, the *Amaranthus tricolor* and *Perilla Nankinensis* are well known. *Amaranthus melancholicus ruber*, a new blood red



COLEUS VERSCHAFFELTII.

annual from Japan is highly recommended. A bed of these presents a striking appearance when viewed from a little distance.

About Ginger.

This is the root, or rather the under-ground stem, of a plant which is a native of the East Indies, but is now grown in many other tropical countries. The stem grows 2 or 3 feet high and is reed-like; the flowers are borne on a separate stalk, they are of a dark purple color, and appear from between broad scales, as is represented in the engraving. In order to save room, the artist has cut off the top of the leaf stem, and placed it by the side of the flower stem. Our supply comes from both the East and West Indies, and is imported in the root, which differs much in appearance and quality. When scalded as soon as it is taken up and dried in the sun it has a dark brownish color, but if the root is scraped before it is dried, it is much lighter colored. Some of the finer kinds are not only scraped but bleached, and are known as white ginger. The root is retailed in powder, and in the grinding is frequently adulterated with meal and similar substances, and several grades of ground ginger are kept at the wholesale stores at prices corresponding to the amount of adulteration. The preserved ginger, which is brought in jars from China, is prepared from the young and tender roots, before they have become stringy or have acquired a very powerful pungency. The fresh root is imported from the West Indies, and is frequently sold in cities for the purpose of flavoring citron-melon, and other preserves. These fresh roots which are usually brought in the Fall, may be planted in a pot and kept through the Winter, and in Summer be turned out into a warm place in the garden where they will flourish during hot weather.

Storing Butter under Ground.

A. Thompson, Pendleton Co., Ky., writes to the *Agriculturist:* "Last June I commenced packing butter. I washed it well through two or three waters when it was first churned, and worked it over again before I packed it, putting it in large stone jars, and digging a hole under the floor of the smoke house, having no cellar or other good cool place. The top of the jar was left just above the ground. I then put strong brine about two inches over the butter, pouring it off each time as I put in fresh butter, adding nothing but salt to the butter, and in January last I sold 60 pounds of butter that was as sweet and good, as when first packed." To preserve butter in good condition the first essential is thorough working. A very small amount of buttermilk left, will soon taint the whole mass. When well worked and properly salted, it should be kept at a uniform low temperature. This was secured in the above instance by partially burying in a shaded place. Some other location than a smoke house would usually be preferable, as butter quickly absorbs any odor from surrounding substances. A small building would pay, where much butter is to be stored. A great gain will be realized by selling June made butter at January prices.

Which are the Best Milk Pans?

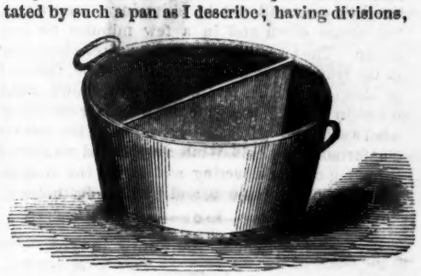
The following experiments lately made at the Munster Agricultural School Farm in Ireland, to determine the effect of various materials used for milk pans, upon the yield of butter, are given in the London Agricultural Gazette. The pans selected were of five kinds, viz.: glass, earthenware (black glaze), delft (white earthenware), tinned iron, and wooden vessels. In order to carry out the experiment with the greatest accuracy, the feeding of the cows was changed, and the temperature of the dairy varied at each experiment. The milk as it came from the cows was strained into a large vessel, and then measured accurately into the pans. The quantity of milk set in all cases was 8 gallons, and the cream from this, ranged from 5 to 6 pints. One week was allowed to elapse before the next experiment was commenced. In all, four experiments were made. In the first experiment the feeding was of a rich nature, and a large produce of butter was expected, and the temperature of the dairy was high for the season, viz., 55°. The feeding consisted of White Turnips, Swedes, Rape-cake (3 lbs. to each cow per day), grains, and hay. The expectation of a large yield of butter was realized, as two of the vessels gave the highest produce—3 lbs. of butter from 8 gallons of milk. In the second experiment the temperature of the dairy was lowered to 48°, and the feeding was Aberdeen Turnips, Swedes, grains, and hay. In the third experiment the temperature was raised to 50°, and the feeding was Mangels, Swedes, Aberdeen Turnips and hay. The temperature was 52° in the fourth experiment, and the feeding was Mangels, Swedes, grains and hay. The produce in butter is shown in the following:

Milk vessels	Experiment No. 1.	Experiment No. 2.	Experiment No. 3.	Experiment No. 4.	Average of the four experiments
	lbs. oz.	lbs. oz.	lbs. oz.	lbs. oz.	lbs. oz.
Glass	3 0	2 10	2 12	2 14	2 13
Earthenware (black glaze)	3 0	2 10	2 12	2 14	2 13
Delft	2 14	2 8	2 10	2 12	2 11
Tinned iron	2 14	2 8	2 10	2 12	2 11
Wood keelers	2 4	2 4	2 6	2 7	2 5¼

It will be noticed that the yield of butter was varied by change of feed and temperature, but that the superiority of the glass and glazed earthenware was maintained throughout. The milk in wooden vessels was less affected by temperature, wood being a poor conductor of heat. The milk soured first in the wooden keelers, and in the delft and tinned iron vessels a few hours sooner than in the glass and glazed earthenware. The longer milk is kept sweet, the more time there will be for the cream to rise unobstructed by coagulation. The pores of wooden vessels in time are more or less affected by moisture and acidity, according to the pains taken to cleanse them, and this hastens the souring of the milk. They can not be kept as clean as tinned iron or glass. The latter material in the above experiments gives about 5 per cent more butter, than the tinned iron, and 18 per cent more than the wood. The heaviness and brittleness of glass and earthenware are objectionable, and the loss from breakage would probably counterbalance any advantage gained in increased quantity of butter. The tinned iron pans in common use in this country, are, all things considered, the most convenient vessels yet brought into use. But for the expense, the best vessels would be porcelain lined iron ware, such as are used for preserving kettles. It may be a question whether the great durability of these vessels, as well as their effectiveness, may not make them the cheapest in the end. The annual interest would not amount to five cents each, per annum.

An Improved Dish-Pan.

A Western correspondent of the *Agriculturist*, "Bay," sends a sketch of the household implement shown below with the following description and remarks: "Diameter of the pan lengthwise of top, 19½ inches, at the bottom 15 inches; short diameter of top 15½ inches; of bottom, 11½ inches; depth of pan 7 inches; handles 2 by 4 inches. My mother, a good housekeeper after the English pattern, always considered it a lady's bounden duty to wash up the breakfast dishes herself, thereby making sure each day that her china-closet was in order, that none of the silver was missing, or glass and cutlery strayed into the kitchen. This operation is facilitated by such a pan as I describe; having divisions,



one for washing, the other for draining: it can be used without slopping, and obviates the necessity that exists in some families, of having dishes carried to the kitchen and back, after each meal. This not only saves time, but risk of breakage, as well as insuring a wholesome division between dining-room and kitchen-table articles." [A dish-pan of the above dimensions, would seem to be too small for both washing and draining divisions, unless for a family of only two or three persons, and using but few changes of dishes.]

To Keep Bed Clothes on Children.

Many a severe cold, and not unfrequently sickness and death, have resulted from sleeping without covering; and this happens quite as frequently in Summer as in Winter, for in the latter season, greater care is exercised, and the windows and doors are less likely to be left open in a way to produce a direct draught of air. Restless children will throw off the clothing, notwithstanding the final visit to their beds by the careful mother or father, before retiring. This can, in part, but not wholly, be prevented by light suppers of simple food, taken early enough to be in part digested before going to bed, which is always advisable. No one, young or old, can sleep well with a poultice of hearty, undigested food on either the outside or *inside* of the stomach. In addition to the above, we have for several years successfully practised fastening the

covering upon the bed. For this purpose, simple screws, or small wooden knobs, fastened into the two side rails on the under side—one near each head post, and one near the foot. Two strong tapes or narrow strips of cloth are tacked across one coverlet a few inches from the head and foot, and loops on the ends are brought over the side rails, and thrown over the screw-heads, leaving the coverlet loose, but so that it can not be pushed off. The long strip is preferable to short loops fastened to the edges of the coverlet, which may tear out. This method is effectual, and costs but little trouble. In a letter to the *American Agriculturist*, "Ann Eliza," of Cold Spring, L. I., writes on the same subject: "To make a child sleep comfortably, and not push off the bed clothes, screw a small knob on the side of the trundle-bedstead or cradle, on the inside, then sew strong loops or strings, on the under quilt far enough from each end, to draw it snug across under the chin, not too tightly; then, put on as much other bedding outside as is necessary, and so long as the loops and knobs do not give way, the child can not get uncovered. If a child has the habit of throwing the head back, and pushing itself out in that way, slip down inside the head board, another peg high enough to go 10 or 12 inches above the pillow; or better still, if the trundle-bed is drawn out before a door or window, have a head similar to a cradle head, to slide down far enough, to set firmly on the bottom of the trundle-bedstead, and the child can not help sleeping warm. If for two children, put a middle loop on the quilt, and a knob in the center at the head. The knobs should be far enough down so that they can not strike the head against them, and the loops long accordingly. In very cold weather the child's bed should be warmed, by laying in the bed pieces of wood or board, that have been previously warmed in the stove oven, putting in half an hour before the child goes to rest, so that not only the blanket but the bed will be warm; and the little ones will not be shivering a long while, but nestle down and in a few minutes be fast asleep. The two children of the writer sleep, one in the trundle-bed, and one in the cradle, fastened as above described, and have never known what it was to sleep cold. None but a mother can know what a satisfaction it is, to be *certain* that her child is comfortable in a cold Winter night, and no fear of throwing off the covering, and laying the foundation for a fit of sickness, and perhaps death."

Refrigerators—Economy in Ice.

Ice is not merely a luxury but almost a necessity in the household, and in this season of scarcity, the greatest economy should be exercised in the use of it. Great improvements have been made in refrigerators or ice chests, within a few years. In the old box refrigerator, where a lump of ice is put at the bottom, and the articles to be cooled placed over it, there is an unnecessary waste of ice. The provisions in this are cooled only by giving off or radiating their heat which is absorbed by the ice, and they, being at the top, are always in the warmest part of the refrigerator. In several recent inventions the ice is placed at the upper part of the refrigerator and its contents are not only cooled by radiation, but also by a descending current of cold air which is passing over them. This current can not take place when the ice is below. We have upon our Exhibition Tables a model of a "Polar Refrigerator," which has some excellent points. The box is divided into two compartments by a central ice chamber. This is made of corrugated zinc, and wedge shaped with the larger end uppermost. The ice is placed at the top of this chamber upon a rack, and the water, which results from its melting, and which is still very cold, is retained in the lower part, where it can be drawn off for drinking. It is an advantage to have separate compartments in the refrigerator, as delicate fruits, butter, milk, etc., can be kept where they will not contract any unpleasant flavor from meats and other provisions. In the use of ice for cooling drinking water, a great saving is effected by the use of double ice pitchers. These are two metallic pitchers placed one within the other, and the intervening space filled with some non-conducting material. In cooling water in the ordinary way, we often use ice very wastefully. A pound of ice in small fragments will cool more than three lbs. of water from the ordinary Summer temperature, to 32° or ice-cold. It is not necessary to reduce the temperature of water so low as this, it being too cold either for comfort or health, and a much smaller quantity of ice than is generally used by most persons will make the water pleasantly cool.

How to Fasten Corks.

It is often very desirable to confine the corks of bottles more strongly than can be done by merely sealing them with wax. In bottling cider, sparkling wine, etc., the gas evolved exerts a very strong pressure, sometimes sufficient to burst the bottles, and the cork is easily forced out, if not tied down. Wire is sometimes used for this purpose, but stout twine properly put on, will be sufficient. The illustrations show quite plainly the manner of doing this. A simple knot is first made, (Fig 1.), and the loop drawn upward to pass over the top of the cork. It is then placed around the neck, just below the projection, drawn tight, and the two ends are brought up over the cork, when it can be readily tied, as shown in Fig. 2. If preferred, fine flexible wire can be used in the same way. This may seem like a small matter to illustrate, but we consider nothing as unimportant which may prove of convenience to the housekeeper. We may here add what has often been stated, that we are always pleased to receive such suggestions and hints of contrivances which may not be generally known to young housekeepers.

Fig. 1.

Fig. 2.

"Splendid Jewelry!"

The above words head an attractive advertisement, recently published in this City. The articles offered are said to be made of "the celebrated Oreide Gold," which "has been found to work equal to pure gold. In finish and beauty they are equal, if not superior to the genuine article." Following this is a price list, from "Gold" watches at $10, down to "Gold" studs at $1. This is an attempt to obtain money under a wrong coloring. Oreide Gold, as it is called, is a cheap alloy of copper and zinc, worth little more than brass, but capable of longer retaining a bright polish. In appearance it somewhat resembles gold, but will ultimately tarnish like any base metal. So good is the imitation, however, that thousands of dollars have been realized from the sale of articles made from it. At first they were represented to be fine gold, and were distributed by "Gift Enterprise" establishments, until that game was played out. Now the attempt is made to palm off this cheap compound under a deceptive name. Fortunately the community have been somewhat enlightened as to the probability of obtaining a dollar's worth of goods for a few cents, and the swindle will probably not be abundantly successful, at any rate, not among the readers of the *American Agriculturist*, we think.

The cheap jewelry manufacturers have much to answer for, not only on account of the deceptions practised in the business, but because of the incitement given to a love of display, which was already a sufficiently prominent national characteristic. Young persons now-a-days are seen glittering with shining ornaments, which might provoke the envy of the Squaws of our Western wilds, or the untamed negroes of Central Africa, but which only excite disgust in the minds of persons of good taste. There is no rational objection to personal adornment. The Almighty intended man to be the most beautiful of all earthly creations. But the addition of a profusion of shining metal, or sparkling stones is no improvement to beauty. A plain ring, a neat pin, or some inconspicuous ornamental keepsake may be admissible, but any jewelry or other articles which attract attention from the wearer, thereby demean him into a mere walking show case for the manufacturers' wares. No trinkets can make a homely face beautiful, but modesty, patience, kindliness and all virtues will add charms of surer and more lasting attraction.

For the American Agriculturist.

How to Polish Shirt Bosoms.

I was somewhat amused by the letter from a young housekeeper, Mrs. Pry. As she feels desirous to make her husband's shirts, bosoms and collars look nice, I will endeavor to tell her how my wife does up mine. The first thing is to wash them clean, then starch them thoroughly with the best of starch. A little pure spermaceti or dissolved gum arabic in the starch will improve it, but have the starch thick, and work it into the linen thoroughly. When in a proper condition, use the common sad iron to smooth them, and get them in proper shape, the same as though they were not to be polished, I would here say that you can not polish linen on a soft cloth. Take a piece of hard wood (I use birch) say 10x14 inches, or size of a shirt bosom, and plane it even and smooth. When you use the polishing iron lay the linen on that, without any cloth underneath; a liberal supply of elbow grease is indispensable to make the things look first-rate. Now for the polishing iron. We use McCoy's Patent. I have seen several kinds, but I like this the best. You can not polish with an iron with a flat face; the one I use is made something like a small shoe, with a round heel on both ends, nicely polished, and care should be had to keep it so, if you wish to have your linen look well. The linen we buy at the stores, is polished by men, or machinery, which gives it a finer polish than can usually be given by females. But if Mrs. Pry will get a good polishing iron, and follow the directions as given, she will not feel ashamed of her husband's bosoms and collars.

Cumberland County, Me. BENJ. FURBISH.

"What to Do with the Rats?"

In answer to this question in the April *Agriculturist*, I would say, do as a friend of mine did when he found his newly-purchased house and stable infested with these destructive animals. Mix equal quantities of plaster and Indian meal, and put where they can get it, and they will devour it greedily. It will make them thirsty and they will seek water, which brings on an *indigestion*. My friend found them, in the morning, lying in heaps by the gutters. In the country it would be well to put water where they could get it easily, so that they need not rush to the wells. This appears to be the safest and most effectual way of managing them.

Westchester Co., N. Y. E. D. REED.

[Plaster is wholly inert, and if useful as a rat destroyer it must act mechanically, by hardening into lumps inside the "critters," and of course the *burned* plaster such as is used by stereotypers, plasterers, stucco workers, etc., must be fed with the meal. If the rats will eat enough of it with meal, to make a respectable boulder inside, it will probably be effectual. Plaster is cheap and can be easily tried. The common ground field plaster will not harden with water.—This rat remedy reminds us of the great stories told "out west," when plaster first came into

use. It was said "that a person riding by a house early one morning, discovered a pair of enormous legs and feet hanging out of the window. On inquiry, it was found that some plaster had accidentally been mixed with the flour for tea biscuits. The 'fertilizing' effects were so great that the man had, during the night, *grown* so fast as to have his legs extend through the windows and bending down at the knees, his feet touched ground." They would probably have taken root but for the disturbance of the early passer by! This is a fact of course—just as much so as one half the stories of the wonderful effects of many of the manufactured manures. ED.]

To Put up Strawberries, etc.

We have had all Winter, and are still using, some of last year's crop of strawberries, in excellent order and flavor. They were chiefly kept in Potter & Bodine's Jars, the most convenient, and every thing considered, the best of the twenty odd kinds we have tried thus far. (Many patent jars promising well have cost us loss of time, fruit, and sugar, to find out that they were poor. The porcelain-lined iron jars are the best of all, but are rather too costly for general use, though possibly cheapest in the long run.) The best plan is, to *fill* the jars with strawberries, then pour in a syrup made by boiling ½ lb. to 1 lb. white sugar in a *quart* of water. The jars are then set down nearly to their necks in cold or lukewarm water in a wash boiler, and the water heated to boiling. When the berries have had time to barely cook through, the jars are lifted out, and one is used to fill up all shrinkage in the others, so that they shall be quite full. Wipe the top clean with a damp cloth while they are still hot. The covers are then put on and fastened tightly. Set into the cellar or any cool room. We put up 144 quart jars last year, of different kinds of fruit, and only lost by fermentation two bottles of tomatoes. When the above, or other good jars, are not accessible, common junk bottles, thoroughly cleaned, or other glass bottles or jars, may be used, as we know by many successful trials. Tightly fitting soft corks, tied in, answer well for covers. It is best to make these surely air tight, by dipping the corks and necks when dry, but still hot, into a cement made by melting together an ounce of lard and about a pound of rosin. Simple beeswax, or grafting wax, will answer.—The fruit may be first cooked with a small quantity of syrup, in a porcelain lined, or even a tinned vessel, and then dipped into the previously warmed jars or bottles, sealing up as soon as the air bubbles have risen and their place is *filled* with more cooked fruit. This mode is more convenient, but does not preserve the shape and flavor of the fruit as well as the other way. The smaller the amount of sugar, the better will the natural flavor be preserved. We use just sugar enough to fit the fruit for the table.

The above directions answer for other berries, cherries, peaches, and for other fruits, except that pears, quinces, cherries, etc., require longer cooking to heat them through. Tomatoes need boiling down one half, both to save room and to make them keep well. The above method is infinitely better and cheaper than the old mode of preserving with a large and unnecessary quantity of sugar.

"That Squeaking Door."

"Careful! careful! Don't open that door; it squeaks [creaks] so, it will wake baby up."——This was what the writer heard when making a call, the other day, and what has been heard in a hundred or thousand other houses. Many mothers go on a whole year watching the creaking door, lest it "wake baby up," or disturb a sick one. It may seem a small matter, but Mr. Editor, please tell all such mothers that read the *American Agriculturist*, to take a few drops of oil in a spoon, or a little fresh lard, and with the finger rub a trifle upon all the door hinges at the points where they wear bright, and the creaking will be stopped for months at least. A minute's time on a door, will save hours of time in watching it, or in getting the baby to sleep after being waked up. HOUSEKEEPER.

Vinegar from Clover.

L. C. Cook, Saratoga Co., N. Y., sends the *Agriculturist*, the following as a substitute for good cider vinegar: Take 2 qts. red clover blossoms and 10 qts. of water, boil five minutes, strain, and add 1 lb. sugar, 1 pint molasses. Put it into a stone jar, and when lukewarm, add four tablespoonfuls of good yeast. Put 2 qts. more of clover blossoms on the top of the liquid, cover close, set in the sun, and in four weeks you will have a cheap and good article.

[Spent tea leaves, and indeed almost any kind of vegetable material will make vinegar, when mixed with sugar and yeast. The acetic acid, or vinegar, is mainly produced by the sugar, the yeast starting the acetous fermentation. The vegetable matter affects the flavor, and perhaps the clover blossoms may give a flavor pleasing to many persons. It will cost little labor or trouble to try it.—ED.]

Directions for Curing Beef.

Contributed to the *American Agriculturist* by Joseph H. Alexander, St. Charles Co., Mo. "For 100 pounds of beef, take 10 lbs. salt, 4 ozs. of saltpetre, 1 quart molasses, 6 gals. water. Boil the mixture, skimming off the impurities; and having cut up and packed the beef in a tight vessel, pour the mixture on the beef *hot*, boiling hot. The beef is ready for use as soon as it is cool. Some recipes say take *twelve* lbs. of salt instead of ten, but from actual experience I have become satisfied that ten pounds will make the meat more palatable—being one pound of salt to ten pounds of beef."

Charlotte Russe Pudding.—Contributed to the *Agriculturist* by "C. E. M." Heat three pints of milk to near the boiling point. Stir into it the yolks of eight eggs, and one large tablespoonful of corn starch. Let it thicken a little, and sweeten and flavor to the taste. Lay slices of sponge cake in a pudding dish, pour over them the pudding, add to the top of it the whites of the eight eggs well beaten, set it in the oven and let it brown slightly, when it is ready for the table.

Rice Pudding.—Contributed to the *Agriculturist* by "E. F. S." Boil ½ pint of rice in milk until soft; then stir it gradually, while still hot, into the well-beaten yolks of 4 eggs, and add 4 tablespoonfuls of sugar, and flavor if desired. Beat the whites of the eggs to a stiff froth, add to them 4 tablespoonfuls of pulverized sugar, and a little flavor, pour over the prepared pudding, and set in the oven until nicely browned.

Apple Pudding.—Contributed to the *Agriculturist*, by Mrs. M. E. Goodwin, Litchfield Co., Conn. Fill a dish 1½ inches deep with sour apples pared and quartered. Spread over them a batter made of 1½ cupfuls of flour, a little salt, ½ teaspoonful of saleratus, and wet with milk (loppered milk is best), to make it as thick as the batter can be spread. Bake in a quick oven, and when done, turn it bottom upward on a platter, and sprinkle with sugar, or serve with any sauce.

Suet Pudding.—Contributed to the *Agriculturist* by "E. F. S." ½ pint finely chopped suet, ¼ pint molasses, ½ pint sweet milk, ½ pint raisins, 1 tablespoonful ginger, 1 teaspoonful soda, 2 teaspoonfuls cream tartar, and flour enough to make it a little stiffer than pound cake. Boil two hours; eat with liquid sauce.

Mica Chimneys have been tried for lamps, but the smoke and dust collecting on or between the laminæ soon render them opaque. But for this fact, they would be very valuable, as no amount of heat would break them.

TO SWEEP CARPETS.—A Correspondent says: Mix corn meal with water to a stiff dough, and sprinkle over the carpet before sweeping. It removes all dust so as to give a beautiful clearness to the colors.—We have seen the same "prescription" going the rounds of the papers—but it appears nonsensical. Unless mixed so dry and compact as to remain in lumps, the meal would sweep *into* the carpet, and literally bedaub it; while if not wet enough to moisten the fabric, how could it brighten the colors? Coarse tea leaves, swept along while moist, would remove the dust and lint, without soiling the carpet.—ED. *American Agriculturist.*

BOYS & GIRLS' COLUMNS.

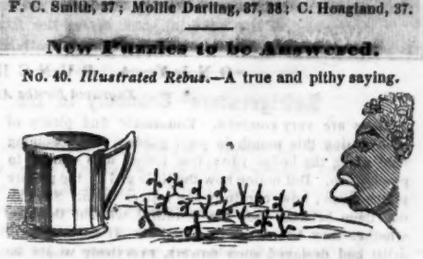
Answers to Problems and Puzzles

in May No. (page 151). No. 37. *Illustrated Rebus.*—"Man W ants butt little h ear below nor W ants T hat little l on G:" or, Man wants but little here below, Nor wants that little long. No. 38. *Problem.*—Answer: Three small yards were made, one enclosing three, another five, and the remaining one, seven sheep; and a fence was then built around the whole three enclosures.—No. 39. *Arithmetical Problem.* Answer: A. dug 27.18 rods; B. 32.48 rods; C. 40.34 rods.—*Note.* By an error in the type the answer to the clock problem (No. 36) on page 151, was given as April 15th; it should read April 16th.

The following have sent in correct answers to recent puzzles and questions; the numbers indicate the problems answered by each. George Elcock, 33, 36; Wm. E. Hower, 36; Augustus Reifsteck, 35; W. Geo. Waring, 36; George Sellick, 36; Willie H. Paine, 35; Frank A. Baker, 36; Lucy H. Weeks, 35, 36; L. O. Gay, 36; C. Hoagland Jr., 36; H. Bowers, 36; Jersey Blue, 36; G. C. Landers, 36; Howard S. Ingersoll, 35, 36; P. M. Doolittle, 35; Wiley McCaughey, 36; Daniel S. Carver, 36; Jno. M. S., 35; Horace M. Deeble, 37; W. H. Adams, 35; E. F. M., 37; Mary A. Purdy, 37; A. G. Tillinghast, 37, 38; Pwiford S. Noble, 37; Isaac McGay, Jr., 37, 38; E. Arston, 37, 38; Maggie Whitesell, 37; Elma Maria Taber, 37; James Williamson, 37; J. McCulloch, 39; G. W. Kitterman, 38; Helen V. Wilson, 35, 37; H. B. S., 37; Fred. E. Parker, 37; Robert W. Vasey, 31; J. Leander Purdy, 37, 38; E. Knapp, 37; Wist C. Williams, 37; Samuel W. Fleming, 38; D. G. Jones, 37, 38, 39; Frank A. Baker, 38; J. D. M., 37, 38; Henry H. Osgood, 36, 37, 38, 39; "O. K," 37; Charles H. Moore, 37; George McKelly, 37; Isaac D. Tharp, 38; Sue R. Coles, 37; "Hoosier Alice," 37, 38; George F. Weekes, 37; N. E. Anderson, 37; W. M. Bowdish, 37, 38; Stephen S. Swisher, 37; Mamie E. Hagerty, 37; J. J. Howe, 37; Mary L. Wint, 37; D. S. Carver, 37; E. C. Long, 37; F. C. Smith, 37; Mollie Darling, 37, 38; C. Hoagland, 37.

New Puzzles to be Answered.

No. 40. *Illustrated Rebus.*—A true and pithy saying.



No. 41. *Illustrated Rebus.*—A very familiar proverb.

No. 42. *Mathematical Problem.*—Two men were equal partners in the purchase of 160 acres of land; the difference in quality was such that 60 acres on one side was equal to 80 acres on the other side. How many acres should each man have, allowing the quality of their respective shares to differ in the above ratio?

No. 43. *Riddle.* The answer should be full of sense.

I'm full of brains, yet never had a mind;
I'm higher than the greatest of mankind;
I daily lose my head for honor's sake:
Though often in a nap, no sleep I take.
At ease I rest upon the seat of power,
And to the ladies add a perfect tower;
Yet who can tell (for pride must have a fall)
How long my form shall be discerned at all.

ONLY A BUNCH OF ROSES.

Engraved for the American Agriculturist.

Roses are very common. You might find plenty of such during this month in your garden, or blossoming wild along the hedge rows, free for all who choose to pluck them. But notice how the little girl in the picture prizes them; how carefully she waters them. She values them because they are beautiful, without thinking whether they be scarce or plentiful. If some skillful artist had designed such flowers, everybody would be eager to possess them; the inventor's name and fame would fill the papers. Are they less to be admired because they cost little, and is the Creator of such beauty to be less praised, because he gives them freely? He is rather to be adored because he has made beautiful things so common. The little girl has, no doubt, lately removed to the country, and the roses are new to her. In the crowded streets of the city she seldom saw a flower; she was too poor to buy them. Now she is rich—not in money, but in happiness, which is more than wealth. Do you often think how easy it is to be thus rich? Every boy and girl living in the country possesses what no money can buy in the city. There is pleasant food for the eye and the mind, as well as for the body, free to all. A single look across the green fields is worth more than the finest display seen in the streets of the largest city. It contains more beautiful, and more wonderful things to those who know how to observe them. How much better to use the means of enjoyment so freely bestowed, than to toil and sigh for the less satisfying pleasures invented by man, and to be had only for money. It will greatly increase the pleasure of examining such objects, if you have them under your own especial care. Every girl and boy should plant at least a few seeds and watch them as they grow day by day. You will find much help to properly observing them, by attentively studying the notes on "The Boys' and Girls' Garden" in another column. This will also teach you to be observing in other matters, and thus form one of the most useful habits. We desire that these pages, specially devoted to the young, shall be to them not only a source of pleasure, but of improvement also. It is only a small part of our education that is received at school.—The engraving is interesting as the copy of a painting by G. H. Boughton, an American artist, now in England, and contributed by him to the sale for the benefit of the Lancashire sufferers.

We Believe in Fortune Telling.

"Do you believe in fortune telling?" asks a young correspondent of the *Agriculturist*. Yes, certainly, and practise it too. Would you like a few trials of our skill? Well, then, give attention. When a boy with black eyes and hair always tells the truth, he will be believed and respected as long as he lives, and as people would prefer to keep him alive, he will stand a good chance to arrive at old age. A girl with brown hair and blue eyes who obeys her parents, is good tempered and industrious, will have many admirers, particularly among sensible men, and she will therefore be in the way of getting a good husband. If a small boy with white hair and grey eyes will learn all he can from books and observation, will practise what he learns, think for himself, and work with energy, he may become both wealthy and wise. If a girl with rosy cheeks and curly hair will avoid late hours, tight dresses, too many nice things to eat, will take plenty of exercise in the open air, and keep good-natured, she will probably be a good looking and happy lady, and if she obtains a good education, she will be a fit wife for a Governor or President. In all these cases the hair and eyes are of no great importance, but the other requisites must be strictly observed to have the good fortune come out right. There! that kind of fortune telling is worth more than all the gipseys, seventh sons, wise women, astrologers and soothsayers could tell you from the time of the Witch of Endor, down to the year 2000. If you have any doubts on the subject, try following our directions, and see if we be not true fortune tellers.

Boys' and Girls' Garden—No. 3.

How does the little garden get on? Most of you, doubtless, have the plants well up by this time, and have compared their early growth with the account given in our last chapter. You have seen that there was already a little plant, or *embryo*, contained in the seed, and that this expanded and grew from the food which was provided for it beforehand. This small supply of food was soon used up, but not before the plant had made a few roots by which it could draw sustenance from the soil. Let us consider what your plants are doing: They are, like all other plants, engaged in taking up materials from the earth and air, and working them into their own substance—they are growing. Is it not wonderful that the little plant can build up fresh green leaves and, by and by, beautiful flowers out of the crude and shapeless matter supplied from the earth and air! The plant receives most of its nourishment by the root, which goes on branching and spreading underground in search of it. If we take up a plant carefully, Flax for instance, we shall see (fig. 10,) how the root is forked and divided up into little fibres. All that the plant takes up from the soil is dissolved in water, and the roots are made to expose great surface in order to take it up rapidly. The principal business of the root is to absorb moisture. All of the plants we have selected for our illustrations are *annuals*. That is they live but one year and, with the exception of the Four O'clock, all make these fibrous or branching roots. We have seen that the seed leaves or cotyledons in some cases serve two purposes—in the Melon, (or cucumber,) and Flax, they first hold the food for the young plant and afterward serve as ordinary leaves. In *biennial* plants, or those which live two years, the *roots* are made to do two different things. The first year, they absorb crude food from the soil, and after this has been prepared in the leaves, it goes back again to the roots where it is stored up for use the next year. The root in this case becomes very thick and fleshy as is seen in the beet, turnip, and carrot, which are all biennial roots. The first year they store up food and the second year they expend it in making flowers and seed. Where the root lasts through several years, as in our trees and shrubs, it is *perennial*. This is enough about the root for the present, though we may have to return to it again another time. Let us now look at the *stem* which, while the root has been growing and spreading below ground, has been lengthening above ground and doing its work, which is to hold up the leaves and allow them to spread to the light and air. The first growth from the seed was the elongation of the little stem or *radicle* which in the Flax, Morning glory, etc., lifted the seed leaves above the surface. A little bud soon appeared between them, which was lifted up by the lengthening of the stem, and, in the Flax, (fig. 10,) two leaves unfolded; above these the stem lengthened again and two more leaves opened, and so on. The increase in hight of the plant being produced by a continued lengthening of the stem, bearing pairs of leaves at intervals. We see that the growth of the plant since it started from the seed is but a repetition of its early growth. We had at the first the *embryo*, which was a little stem and a pair of leaves, and the plant has done nothing since but make little joints of stem and produce pairs of leaves. It will be noticed that the Flax and Four O'clock produce a pair of *opposite* leaves at each joint of the stem, while the Morning glory, (fig. 11,) bears only one leaf at each joint; such leaves are said to be *alternate*. The stems of our plants present considerable difference: while the Flax and others stand upright, the Melon will soon lie flat upon the ground and the Morning Glory will wind itself around a stick or some other support. Still, with all these differences, it is easy to distinguish the stem, and it is really the same thing and answers the same purpose, whether it is the weak stem of the Morning Glory that dies down with the Winter, or the woody stem of the apple or other tree that lasts for many years.—Now let us look a little at the leaf. This is a most important part of the plant, for here the crude liquids taken up by the roots are exposed to the light and air and fitted to be used in the growth of the plant. In the leaves much water is evaporated, and the breathing

FLAX.—Fig. 10.

of the plant is going on, and they are made to expose as much surface as possible. If we look at a Morning glory leaf, (fig. 12) we find first a leaf-stalk or *petiole*, and then the broad part or limb of the leaf. A strong rib—the *mid-rib*—runs directly through it from the petiole to the point, and from this numerous *veins* branch off on each side, so that the leaf when held up to the light, is seen to be a frame work of fibres, filled in with a green pulp. We find leaves having a great variety of shapes; some of them have petioles, but this is not essential. In the Flax there is no petiole, the blade sets directly on the stem, is *sessile* as it is called. The leaf of the Morning glory is *heart-shaped*. That of the Flax and Oat are *linear*. Many other terms are used to express the shapes of leaves, which need not be learned at present. The Tomato leaf (fig. 11) will be found very much cut up, and is what is called a *compound leaf*. These parts of the leaf are called *leaflets*. If you notice other leaves, you will find a great variety in this division, from the deeply cut leaf of the Tomato, to leaves that merely have their edges notched like a saw, as in the cherry. In the Sweet Pea, (fig. 14,) the petiole bears two divisions or leaflets, and the end of the petiole bears a little appendage, as in the lower leaf in the figure, which is sometimes developed as a leaflet, as shown in the second leaf, but when the plant gets older, it appears as a tendril, represented in the upper leaf, by which the plant clings to brush or other support. Where the petiole of the Sweet Pea leaf joins the stem are a couple of little appendages called *stipules*—upon the garden pea these are very large. The stipules as well as the petiole are not always present. The leaf of the Oat, (fig. 13,) will upon examination be found to present a different appearance from the other. At first sight you will be puzzled to make out its different parts, but on close examination it will be seen that the *petiole* here is broad and clasps around the stem, forming a kind of sheath. Upon holding the blade of the leaf up to the light it will be seen that the veins are very different from those of the other leaves; instead of forming a net work they all run straight from one end to the other. It was mentioned in the last lesson that the embryo of the

Fig. 11—TOMATO LEAF.

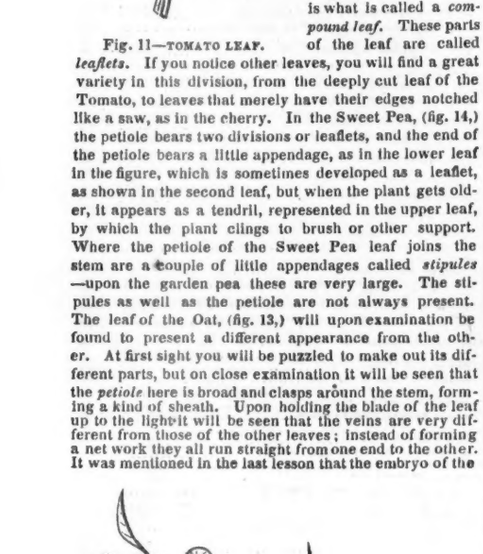


Fig. 12—MORNING GLORY. Fig. 13—OAT.

Oat was peculiar in having but one *cotyledon*, and we now see that the leaves are very different from those plants in which the embryo has two cotyledons. It is generally the case, that dicotyledonous plants have leaves with netted veins, while monocotyledonous plants have no netted veins, but they are parallel, running lengthwise as in the Oat, or from a mid-rib straight out to the margin of the leaf. Of course we can not give all the varieties which leaves present, but they will be found to be constructed on essentially the same plan. Now if you have looked at the plants attentively you will have observed two things which it is well to bear in mind: 1st. That the same part may take on a great many different shapes and still perform its work. This has been illustrated in the different forms of the stem and leaf. 2d. That a part may be wholly or partly diverted from its ordinary use and made to serve another purpose. We have seen that the seed leaves may serve to hold food;

Fig. 14—SWEET PEA.

that the root, as the beet, etc., may also store up food, and that a part of the leaf may be modified, as in the pea, into a tendril to help the plant to climb. All the parts of the plant concerned in making its growth, are either root, stem or leaf, and having seen how these vary in those we have mentioned, you will now take great interest in looking at other plants, and in seeing what an infinite number of shapes can be given to these three parts.

HOW ARE OUR DRESSES TO BE MADE?—A contemporary answers the foregoing question in the following lively manner:—"By a sewing machine, of course. We trust that the day is over in which needle drudgery sets a feeble opposition to the musical click of the Wheeler & Wilson machine. A lady who says she does not know how to use a sewing machine, is looked upon with as much distrust as a lady who says she don't like babies! Side by side, in every home, we see the piano and the sewing machine. Of course, people have a right to their preferences, but give *us* the merry little musician whose crystal eye and silver tongue not only fill the ear with melody, but set the pulses of life and health throbbing anew in the weary hearts of a million women. Is it not better than all the pianos ever tuned? Some of the newest improvements to the Wheeler & Wilson machine, are the Binder, Braider and Corder, all of which ladies find indispensable. The Braider is particularly appropriate to the present mania for decorating everything with braid. "I do not know what we should do without the Wheeler & Wilson Braider,' said the director of one of our fashionable mantilla establishments, when we inquired *how* those tasteful labyrinths of braid were laid on, and his words are echoed in every home in the land.—Really, we scarcely know which blessing to wish our young lady friends—a Wheeler & Wilson machine or a husband! We rather incline to the former, for they can exist minus the matrimonial alliance, but *can't* do without a sewing machine. What do you say, girls?"

From the New-York Evangelist.

EMBROIDERED DRESSES.—The fashion of having embroidery on cloaks, ladies' dresses, and, in fact, garments of almost every description, is rapidly on the increase in this country—imported, as are other fashions, from Paris. Fortunately for the ladies, *the crisis* has not caught them unprepared, and left them with no other means of ornamenting their articles of dress but the tedious and tiresome one by hand. There is at least one of our popular sewing machines (GROVER & BAKER'S) which is adapted to both sewing and *embroidery*—the latter as well and as rapidly as it sews the plainest sewing.

Business Notices.

☞ *Eighty Cents a Line of space.*

Housekeepers, Use the Best!

Pyle's Saleratus,
Pyle's Cream Tartar,
Pyle's O. K. Soap.

These articles are put up expressly for the best Family Trade, and the steadily-increasing demand is the best proof of their superiority. Sold by Grocers everywhere.

JAMES PYLE, Manufacturer,
No. 350 Washington-street, New-York.

Lands—To All Wanting Farms.

Large and thriving settlement of Vineland, mild climate, 30 miles south of Philadelphia, by railroad; rich soil; fine crops; twenty acre tracts, at from $15 to $20 per acre; payable within four years. Good business openings; good society. Hundreds are settling and making improvements. Apply to CHAS. K. LANDIS, Post master, Vineland, Cumberland County, N. J. Letters answered. Papers containing full information sent free.

The Markets.

AMERICAN AGRICULTURIST OFFICE,
New-York, Wednesday Morning, May 20, 1863.

1. TRANSACTIONS AT THE NEW-YORK MARKETS.

RECEIPTS.	*Flour.*	*Wheat.*	*Corn.*	*Rye.*	*Barley.*	*Oats.*
26 days *this* m'th	347,000	540,000	596,000	45,000	51,000	410,000
26 days *last* m'th	211,000	41,450	127,000	18,750	93,000	296,000

SALES.	*Flour.*	*Wheat.*	*Corn.*	*Rye.*	*Barley.*
26 days *this* month.	349,000	783,000	1,839,000	102,000	91,000
26 days *last* month.	321,000	413,000	1,492,000	148,800	105,000

2. *Comparison with same time last year.*

RECEIPTS.	*Flour.*	*Wheat.*	*Corn.*	*Rye.*	*Barley.*	*Oats.*
26 days 1863	347,000	540,000	596,000	45,000	51,000	410,000
25 days 1862	371,000	518,000	390,000	53,000	101,000	176,000

SALES.	*Flour.*	*Wheat.*	*Corn.*	*Rye.*	*Barley.*
26 days 1863	349,000	783,000	1,839,000	102,000	91,000
25 days 1862	411,000	696,000	1,506,000	154,000	98,000

3. *Exports from New-York, Jan. 1, to May 14.*

	Flour. Bbls.	*Wheat. Bush.*	*Corn. Bush.*	*Rye. Bush.*	*Oats. Bush.*
1863	817,698	4,103,938	2,508,263	216,383	101,664
1862	953,922	2,636,284	4,773,120	604,678	17,803

CURRENT WHOLESALE PRICES.

	April 18.		May 20.	
FLOUR—Super to Extra State	$6 10 @ 7 25		$5 30 @ 6 50	
Superfine Western	6 15 @ 6 50		5 30 @ 5 60	
Extra Western	6 80 @ 9 75		6 05 @ 9 50	
Extra Genesee	7 30 @ 8 75		6 60 @ 8 25	
Super. to Extra Southern	7 60 @ 9 75		6 65 @ 9 50	
RYE FLOUR—Fine and Super.	3 40 @ 5 40		3 40 @ 5 40	
CORN MEAL	4 10 @ 4 60		4 20 @ 4 60	
WHEAT—All kinds of White	1 75 @ 1 90		1 65 @ 1 75	
All kinds of Red	1 32 @ 1 75		1 20 @ 1 55	
CORN—Yellow	92 @ 95		75 @ 82	
Mixed	88 @ 90		75 @ 78	
OATS—Western	86 @ 87		70 @ 72	
State	87 @ 87½		70 @ 72	
RYE	1 04 @ 1 06		1 00 @ 1 03	
BARLEY	1 45 @ 1 60		1 30 @ 1 40	
BEANS—per bushel	2 00 @ 3 15		2 00 @ 3 15	
COTTON—Middlings, per lb	66 @ 67		56 @ 57	
HOPS, crop of 1862, per lb	16 @ 24		16 @ 24	
FEATHERS, Live Geese, p. lb	52½@ 55		46 @ 53	
SEED—Clover, per lb	8½ @ 9½		8 @ 8¾	
Timothy, per bushel	1 65 @ 2 00		Nominal.	
FLAX, per bushel	3 50 @ 4 00		Nominal.	
SUGAR—Brown, per lb	8¼ @ 12		8¼@ 12¾	
MOLASSES, New-Orleans, p. gl.	45 @ 55		40 @ 53	
COFFEE, Rio, per lb	30 @ 33		30 @ 33	
TOBACCO—Kentucky, &c, p. lb	16 @ 35		14 @ 32½	
Seed Leaf, per lb	14 @ 45		12½@ 42½	
WOOL—Domestic fleece, p. lb	75 @ 95		68 @ 87	
Domestic, pulled, per lb	65 @ 90		60 @ 85	
Wool, California, unwashed	30 @ 55		25 @ 50	
TALLOW, per lb	11¾@ 12		11 @ 11¼	
OIL CAKE, per ton	40 00 @47 00		Nominal.	
PORK—Mess, per bbl	13 50 @15 50		12 00 @14 12½	
Prime, per bbl	11 00 @13 00		10 75 @12 50	
BEEF—Plain mess	10 50 @12 00		9 50 @11 75	
LARD, in bbls., per lb	9¾ @ 10¾		9¾@ 10¾	
BUTTER—Western, per lb	16 @ 19		12 @ 16	
State, per lb	18 @ 24		16 @ 23	
CHEESE	11 @ 14		8 @ 14	
Broom Corn—per lb	8 @ 10		8 @ 10	
EGGS—Fresh, per dozen	15 @ 17		14 @ 15	
POULTRY—Fowls, per lb	12 @ 14		12 @ 14	
Ducks, per lb	15 @ 18		14 @ 17	
Geese, per lb	7 @ 10		7 @ 10	
Turkeys, per lb	10 @ 14		12 @ 15	
POTATOES—Common, p. bbl	1 25 @ 1 50		1 00 @ 1 25	
Peach Blow, per bbl	1 50 @ 1 75		1 37 @ 1 62	
Mercers, per bbl	1 75 @ 2 25		1 75 @ 2 25	
Nova Scotia, per bushel	40 @ 50		40 @ 45	
Sweet, per bbl	4 00 @ 4 25		4 00 @	
ONIONS, Red & Yellow p. bbl	4 00 @ 4 50		2 50 @	
APPLES, Greenings & Russets	2 00 @ 2 75		2 50 @ 3 50	
Apples, choice, per bbl	2 00 @ 4 00		3 50 @ 3 75	
DRIED APPLES, per lb	4 @ 6¼		4 @ 6	

Advertisements.

Advertisements to be sure of insertion must be received at latest by the 15th of the preceding month.

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☞ Business Notices, *Eighty cents* per line of space.

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BANKERS AND DEALERS IN GOVERNMENT SECURITIES.

No. 38 Wall-st., New-York.

AGENTS FOR THE SALE OF

THE UNITED STATES FIVE-TWENTY YEAR SIX PER CENT BONDS.

The interest on these Bonds is at the rate of Six per Cent. per Annum, and is payable 1st May and November, in GOLD.

They are called "FIVE-TWENTIES," because redeemable at the option of the Government after 5 or within 20 years.

The *Coupon Bonds* are issued in denominations of $50 $100, $500, $1,000, and are payable to bearer, as are also the Coupons for the collection of the interest. The Registered Bonds are issued in denominations of $50, $100, $500, $1,000 $5,000, $10,000, and are payable to the order of the holder, and registered in his name on the books of the Treasury Department at Washington. The Registered Bonds have no Coupons attached for the collection of interest, but the interest may be collected by the holder in person, or by any person having his Power of Attorney for the purpose, at any Sub-Treasury of the United States which he may designate.

We sell the Bonds for the Government, both Registered and Coupon, in any of the foregoing denominations, at the rate authorized by Congress, without any additional charge for Commission, viz.: at PAR, and accrued interest, or at PAR, with interest commencing from the date of subscription.

☞ NOTE.—*The Bonds are issued to us by the Government at different periods, and bear interest from the date at which we pay for them, as indicated by a stamp on the first Coupon. For the few days intervening between their issue and the time of sale, we charge the accrued interest, payable in Current Funds. Or, if purchasers prefer it, we take their subscriptions, and ordinarily in two or three days thereafter, deliver them Bonds, bearing interest from the date of their own subscription and payment, with no accrued interest to be paid.*

We are thus enabled to save parties all trouble and expense in finding Legal Tender Notes, or otherwise investing in these Bonds.

Orders or inquiries by mail will receive prompt attention, and the Bonds will be sent to any address, by mail or express, as desired. Payment may be made in BANK NOTES CURRENT IN NEW-YORK, DRAFTS AND CHECKS ON CITY BANKS, OR U. S. LEGAL TENDER NOTES. Persons in the country can send their orders and money to us direct, or call at the nearest Bank and ask the Cashier to do it for them. Drafts or Checks may be sent with safety by mail. Bank Notes or Legal Tenders should be sent by Express.

☞ ON AND AFTER JULY 1, 1863, THE PRIVILEGE OF CONVERTING LEGAL TENDER NOTES INTO THESE BONDS, AT PAR, WILL CEASE, AND IT WILL BE NECESSARY FOR PERSONS DESIRING TO OBTAIN AT PAR A UNITED STATES BOND BEARING SIX PER CENT INTEREST, IN GOLD, TO SEND IN THEIR ORDERS BEFORE THAT TIME.

These Bonds are the CHEAPEST GOVERNMENT SECURITY NOW IN THE MARKET, and pay the LARGEST INTEREST on their cost, and Congress has provided that they hall be paid in GOLD, when due.

They are destined to become the BEST KNOWN, MOST POPULAR and MOST AVAILABLE, of all the Bonds of the Government.

The operation of the National Tax Law, which it is now certain will produce double the income originally anticipated, will make the issues of the United States Government the safest and most desirable investment in the world. They are in reality a First Mortgage on everything in the country, as no Railroad or Corporation of any kind, can pay a dividend, or the interest on its own issues, until it has contributed out of its gross income, through the operation of the Tax Law, to the support of the National Credit.

The present bonded debt of the United States is less than THREE HUNDRED MILLIONS, including the seven and three-tenths Treasury Notes; but the Government owes enough more in the shape of Legal Tenders, deposits in the Sub-Treasuries, Certificates of Indebtedness, &c., to increase the debt to about eight or nine hundred millions. Secretary Chase has calculated that the debt may reach one thousand seven-hundred millions if the Rebellion lasts eighteen months longer. It is, however, believed that it will not last six months longer—but even if it does, the National Debt will be small compared with that of Great Britain or France, while our resources are vastly greater.

There is no doubt that the revenue will not only be ample to pay the ordinary expenses of the Government, and all interest on the debt, but leave at least one hundred millions annually toward paying off the debt, and that the Government will be able to get out of debt again, as it has twice before, in a few years after the close of the war.

The duties on imports of all articles from abroad must be paid in GOLD. It is now being paid into the Treasury at the rate of Two Hundred Thousand Dollars each day, which is twice as much as is needed to pay the interest in Gold on all the Bonds of the Government.

The Supreme Court of the United States have just decided that the States have no power to tax the Securities of the Government. This is conclusive upon this point, and will greatly increase the value of these securities.

As the right to convert Legal Tender Notes into FIVE TWENTY Bonds expires on the 1st of July, those having funds in *Savings Banks*, the interest upon which would be forfeited if withdrawn before that day, can secure bonds, to be delivered during the first 20 days of July, by a deposit of 10 per cent with the subscribers.

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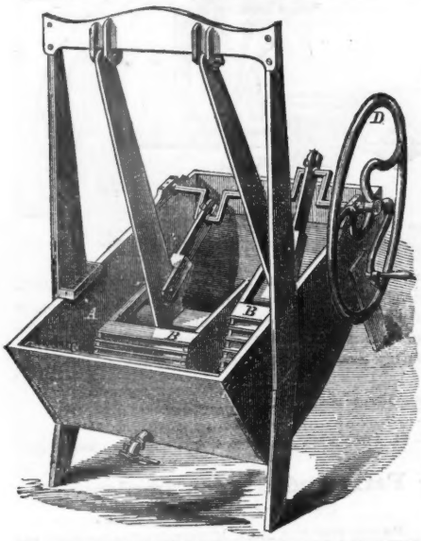

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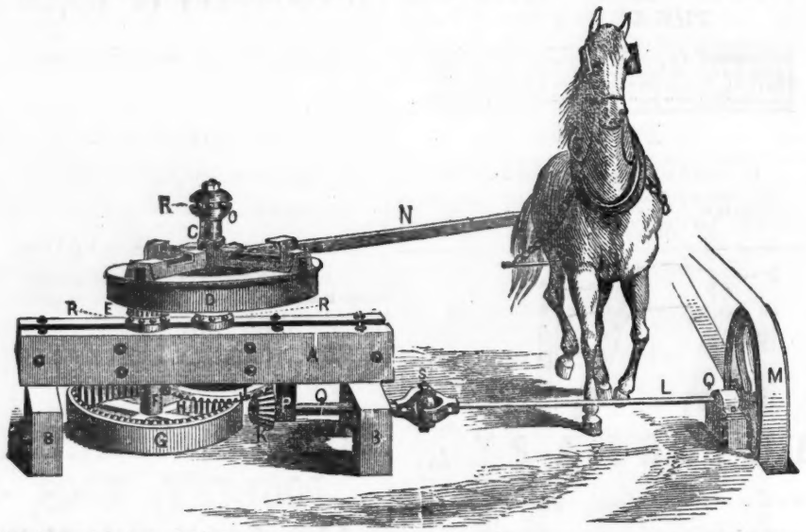

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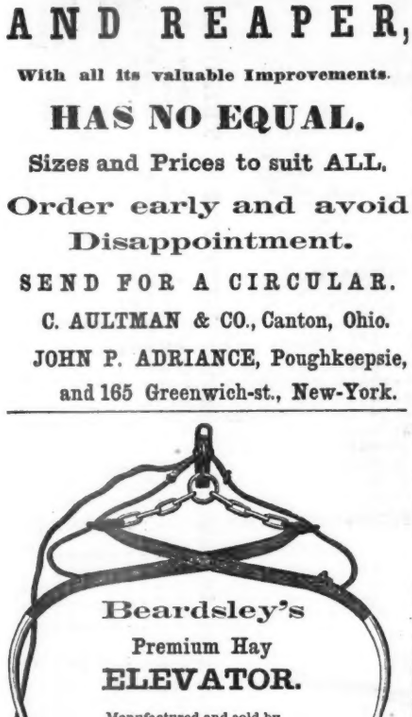

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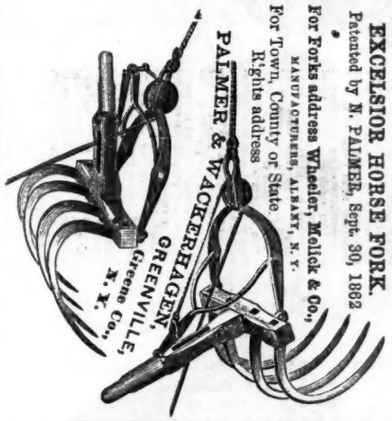
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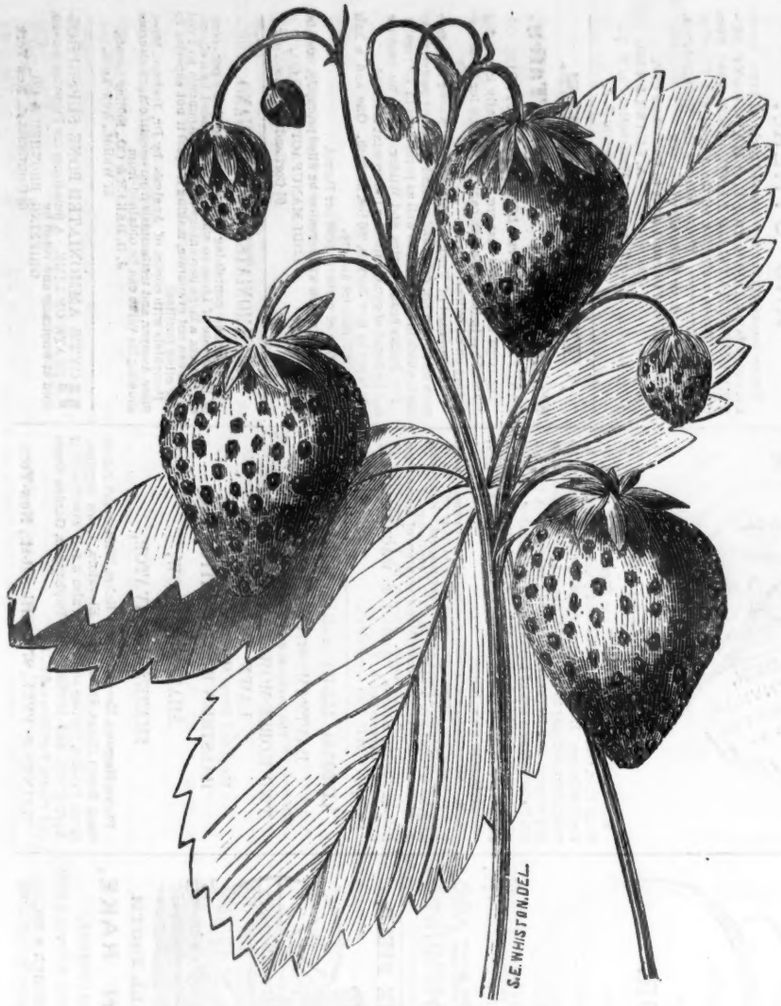

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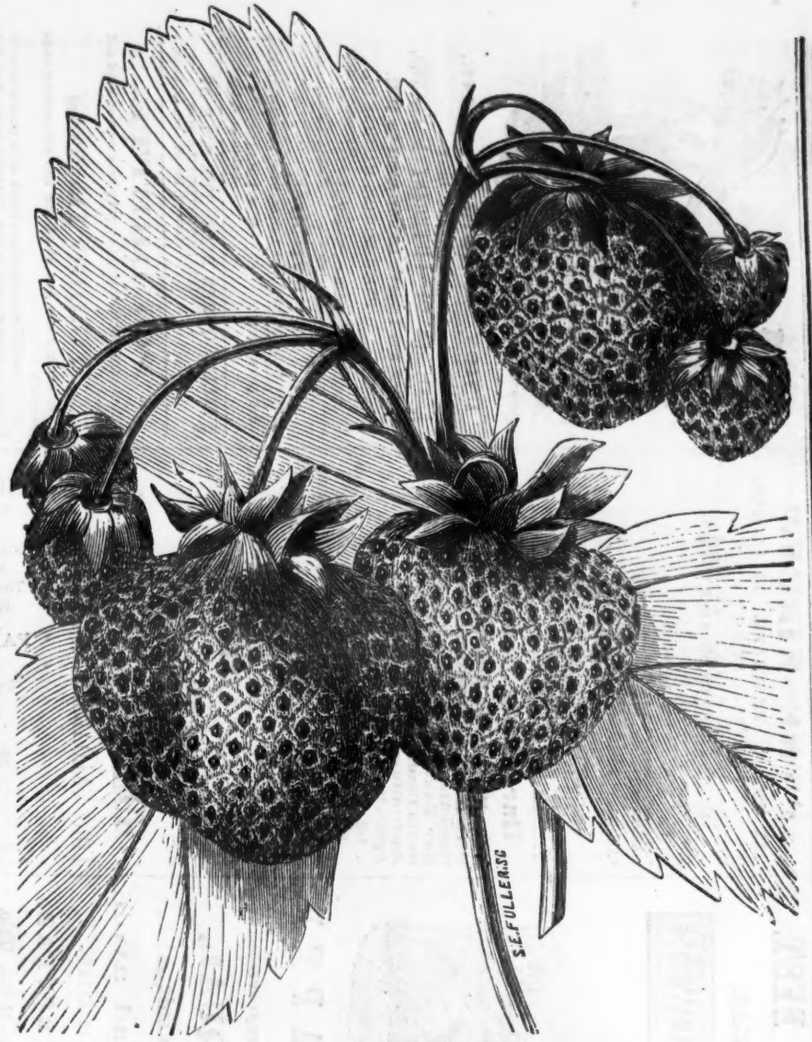

COL. ELLSWORTH.

NEW STRAWBERRIES, Distributed to Subscribers to the NEW-YORK TRIBUNE.—See also next Page.

The New-York Tribune—1863.

THE NEW-YORK TRIBUNE, first issued in 1841, now in its twenty-third year, has obtained both a larger and a more widely diffused circulation than any other newspaper ever published in America.

Pre-eminently a Journal of News and of Literature, THE TRIBUNE has political convictions, which are well characterized by the single word REPUBLICAN. It is Republican in its hearty adhesion to the great truth that "God has made of one blood all nations of men"—Republican in its assertion of the equal and inalienable rights of all men to "life, liberty, and the pursuit of happiness"—Republican in its steadfast, earnest, defiant hostility to every scheme and effort of the Slave Power, from the ANNEXATION of TEXAS to the great Rebellion, to grasp the empire of the New World and wield the resources of our country for its own aggrandizement—Republican in its antagonism to the aristocrats and despots of the Old World, who fondly hail in the perils and calamities suddenly thrust upon us by their American counterpart the overthrow and ruin of the Model Republic—Republican in its hope and trust, its faith and effort, that this atrocious Rebellion must result in the signal overthrow of its plotters, and the firm establishment of equal rights and equal laws throughout the whole extent of our country, wherein Liberty and Union shall indeed be "one and inseparable" henceforth and forever.

THE TRIBUNE devotes attention in calmer times, and to some extent in these, to Education, Temperance, Agriculture, Inventions, and whatever else may minister to the spiritual and material progress and well-being of mankind; but for the present its energies and its columns are mainly devoted to the invigoration and success of the War for the Union. Its special correspondents accompany every considerable army and report every important incident of that great struggle which we trust is soon to result in the signal and conclusive triumph of the National arms and in the restoration of Peace and Thrift to our distracted, bleeding country. We believe that no otherwise can a fuller or more accurate view of the progress and character of this momentous conflict be obtained than through the regular perusal of our columns. And we earnestly solicit the co-operation of all friends of the National cause, which we regard and uphold as that of Universal Humanity, to aid us in extending its circulation.

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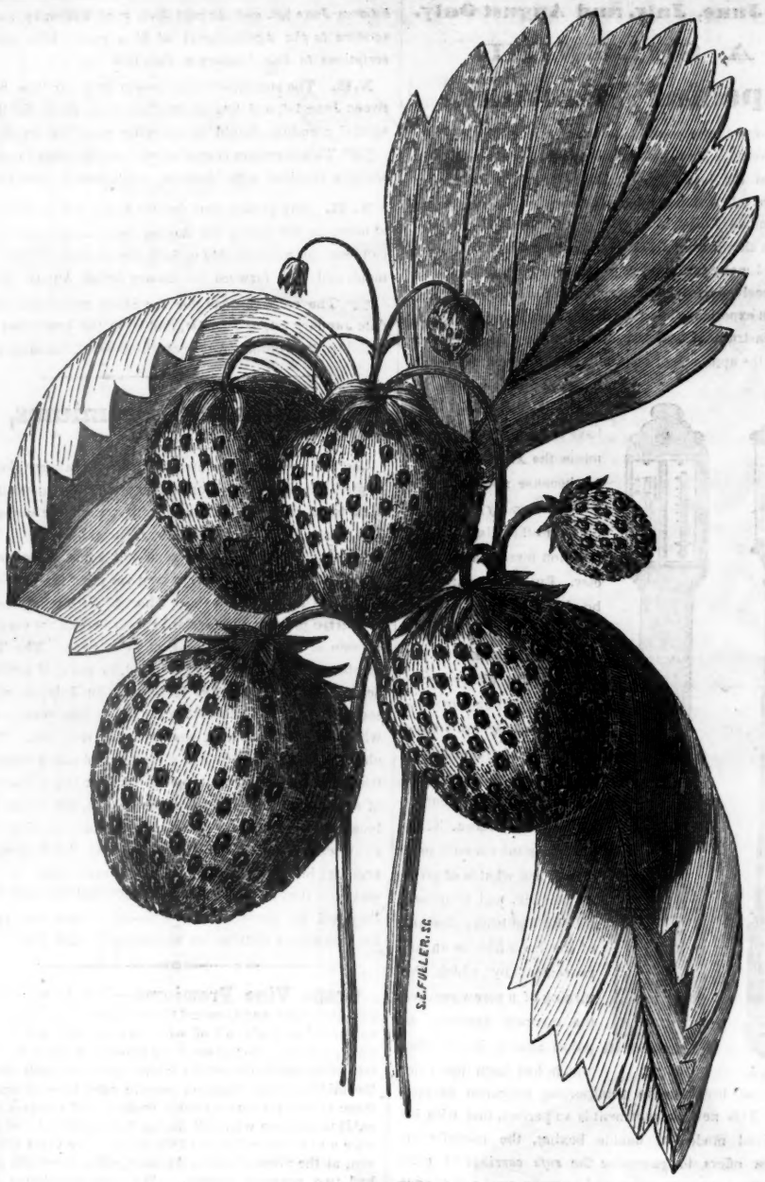

MONITOR.

[ADVERTISEMENT.]

THE TRIBUNE

PRIZE STRAWBERRIES.

How they Originated—How they Look and Taste—Why they are Given to the Subscribers of The Tribune—When and to Whom they will be Distributed.

The cuts herewith presented represent "The Tribune Prize Strawberries"—so named because we purchased them, at a very large price, to bestow *exclusively* upon the subscribers of either edition of The Tribune for 1863, intending to send one of each kind to every subscriber who expresses a wish to that effect at the time of subscribing. This will be equal to a prize of $1 50 to each subscriber, as that is the price charged by nurserymen for similar plants. Indeed, neither of these prize strawberries could be obtained at any price whatever, as we have secured every plant that can be produced in the year 1863, exclusively, as prizes to our subscribers. We have incurred the large outlay necessary for this purpose, because we have an earnest desire to see the propagation of improved fruit greatly extended, and because we believe that every one who receives these plants and grows the fruit will hold The Tribune in kindly remembrance for enabling him to enjoy such a good gift of a kind Providence, and will thereafter feel an increased desire to improve all the list of fruits. It is thus that health and happiness will be increased.

As these plants have all to be grown from the few plants that we bought of Mr. Fuller in the Autumn of 1862, he will not be able to send them to subscribers until after the 1st of September, 1863, when they will be carefully packed in oiled silk or paper, and forwarded, through the mail, at our expense, or by express at expense of the receiver. The three plants will be sent to each person who sends to us a year's subscription for either the Daily, Semi-Weekly, or Weekly Tribune, indicating at the time of subscribing that he desires the Strawberries, and the distribution will be made in the order the subscribers' names and requests for Strawberries are received.

Single subscribers will receive their plants by mail, done up in oiled silk, or other suitable oiled substance.

To Clubs, plants will be sent in packages, to correspond with the number of names in the Club; and where the number will warrant it, they will be sent by express, packed in boxes.

New subscribers who desire strawberry plants should say so at the time they send their money, as we do not intend to send any to those who will not appreciate them. They are too valuable to be wasted. There are parties who would gladly contract for the exclusive right to all these plants, at 25 cents a piece, and there are many subscribers who would not, as soon as they see and taste the fruit, part with their prize for a $5 "green back."

HOW THESE NEW STRAWBERRIES WERE PRODUCED.

The following statement is made by Andrew S. Fuller, horticulturist, Brooklyn, the originator of these strawberries. He says:

"It is now between seven and eight years since I commenced sowing seeds of the strawberry for the purpose of producing new and improved varieties. I have always selected seeds from the largest and best that could be obtained, and the results were that I produced some few good varieties each season; yet they were not such as I was willing should go out as my seedlings. Every season I selected the seed with more care than I did the previous one, and found that I made constant improvement. I therefore determined that I would put forth extra exertions and see if a few extra choice varieties could not be produced. In 1859 I obtained the best varieties known, and by fertilizing the flowers one with another, I expected to produce strawberries combining greater excellence than heretofore known. In this I was not disappointed. I produced that year many thousands of seedling plants, and the fruit of many was really excellent, so much so that I was urged not to throw the plants away; but as excellence, and not variety, was my object, I destroyed all but the most promising. I determined from the first that no plant should go out as a seedling of mine unless it combined greater excellence than any other strawberry known. From the selections of that year a competent Committee from the Farmers' Club of the American Institute, who had the matter three years in charge, made a selection of three sorts, ripening early, medium and late, and these I preserved as the final result of my seven years' laborious experiments to procure improvement in strawberries from seeds. These I intended to dispose of in the ordinary way of a nurseryman's business, and should have done so but for the desire of The Tribune to make a gratuitous distribution of these truly excellent strawberries to its subscribers. I have therefore contracted to furnish them exclusively for that purpose. Not one of them can be bought of me at any price. If I had kept them for sale to individuals the price would have been 50 cents each, or $5 a dozen."

NAMES AND DESCRIPTIONS OF THE PRIZE STRAWBERRIES.

"The earliest ripening one was named Col. Ellsworth, in honor of the martyr who lost his life when Alexandria, Va., was first occupied by the Union army during the present war. It is a very large variety, of a crimson color, conical in shape, and having slight depressions running from calyx to point, resembling the sutures on the peach, with a long neck, and the calyx parts readily from the berry; quality good; flesh firm. Although the largest of the three, it is also the earliest, ripening at the same time as the Jenny Lind and Early Scarlet, and is very productive. The original plant, eighteen months from the time the seeds were sown, produced over 200 perfect berries, averaging from 1 inch to 1¼ inches in diameter.

"The next ripening is called the Monitor. It is very large, of a dark bright scarlet color, approaching a crimson in the sun. Berry very solid and firm, of fine quality; plants very vigorous and productive. This sort will become a great market fruit, the color and shape being very attractive.

"The third, from its color and origin, is called the Brooklyn Scarlet. Although this variety is inferior in size to the other two, yet it possesses merits that will always make it a great favorite. Its shape is a regular oblong cone, color the most beautiful bright scarlet. Flavor, the very best. We have the unanimous decision of the judges at the great strawberry show last season at No. 41 Park-Row, New-York, on this point, as they awarded it the first premium over all its numerous competitors. The plant is a very strong and vigorous grower, making monstrous stools the first season, from which an enormous amount of fruit stalks are produced. Add to this its lateness, which assists so much in prolonging the season of this delicious fruit, and we have in this strawberry something as near perfection as possible, though not as large as the others. Yet this is not small, and among the sorts most cultivated, ranks medium to large."

The above descriptions by Mr. Fuller, in addition to all that we have already published, must be sufficient to satisfy all minds that we are offering no trifling prize to our subscribers, as an indication of our good will, and certainly with a hope of their continued good will to us.

We have only to add that the cuts are as exact representations as to size, as can be given, and in no respect exaggerations of The Tribune Prize Strawberries.

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For June, July, and August Only.

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Special Premium.

We *know* that a good Barometer is a *good thing* for every family. To the sailor a barometer is almost essential, and the instrument is scarcely less valuable for Farmers. It will pay a large interest on its cost every year, and very often more than pay for itself in the saving of a single crop from damage by storm. We have received many testimonials to this effect, from those who have received barometers through our premium list, and our own experience has often demonstrated the usefulness of the instrument in foreshadowing the coming storm, as well as the approach or continuance of fine weather, when all appearances were in the contrary direction. We have hitherto given as a premium the *Aneroid Barometer*, because more portable and more readily sent by express or otherwise than the common mercurial barometer. But for the danger of breakage, we should of course prefer any good *Mercurial Barometer* as being the most nicely accurate and unfailingly permanent. This danger of breakage is now obviated in the invention of Mr. Woodruff, manufactured by Charles Wilder at Peterboro, N. H. The glass tube is well protected, and what is of great importance, and is indeed the distinguishing feature of the invention, is an arrangement by which the turning of a screw secures the mercury perfectly against motion in the tube, which has been the chief cause of breakage in transporting *mercurial barometers*. This new arrangement is so perfect, that with his improved mode of double boxing, the manufacturer now offers to *guarantee* the *safe carriage* of each instrument we may order, and to make good any chance loss. This guarantee places this barometer *first*, and we recommend it above all others for *general use*.

Fig. 1. Fig. 2.

The barometers are of different forms and prices, ranging from $5 to $20, the price depending upon the style of finish. The tubes and working apparatus of those costing $8 to $20 are the same, and are supplied with inclosed thermometer, vernier, etc. Fig 1. shows the $8 form. Fig. 2. is the $12 form, put in walnut or mahagony case, as desired. They are both neatly made, the $12 size being of course the most ornamental, and the preferable instrument on this account.

We are glad also to announce that we have made a special advertising arrangement with Mr. Wilder (to continue *only* from June 1st, to August 31st,) by which these good barometers can be supplied *as premiums*, on terms that will place them *within reach of many of our readers.*

Here is our offer (the instruments to be sent direct from the manufactory by express, and their good quality and safe delivery warranted by the manufacturer, which guarantee we agree to see made good):—

1st.—The $8 Barometer (*Fig.* 1) *will be presented (with the guarantee as above) to any person who shall, between June 1st and August 31st, send* **fourteen** *subscribers to the American Agriculturist at $1 a year.* (*The subscriptions to date January or July* 1863.) See next column.

2nd.—The $12 Barometer (*Fig.* 2) *will be presented (with the above guarantee) to any person who shall, between June 1st. and August 31st, send* **twenty** *subscribers to the Agriculturist at $1 a year.* (*The subscriptions to date January or July* 1863.

N.B. The subscribers can be sent in at any time between June 1st, and August 31st: but each name for the special premium should be specially noted as for this.

☞ This premium is special, and applies *only* to subscribers received *after* June 1st, and *before* August 31st.

N. B. Any person who desires to get his barometer at once, for use during the haying season, or otherwise, can send the amount ($14 or $20) and receive his instrument, and then forward the names before August 31st.

☞ The subscriptions for the above premiums may date January 1st, or July 1st, that is, at the beginning or middle of the volume. Any back numbers will be supplied.

Strawberry Premiums,
EXTRA.

Last Summer we distributed **40,000** Strawberry plants as premiums, (10 or more for each new subscriber,) sending them to all parts of the country with remarkable success. The postage on plants will be reduced one-half after July 1, and we propose to send out some more good strawberry-plants, of the very best varieties that we can obtain, as premiums to those who will during the month of **June** procure and forward subscribers to the present volume of the *Agriculturist*, at $1 a year. The Triomphe de Gand will be distributed, in part, if nothing better or more desirable is found. In July, or after seeing the fruit and observing the plants this season, we will announce what kinds will be sent out. The plants will be distributed at the proper planting season, from the last of August to about October 1st.; the time of sending will depend upon the season, and upon the locality to which they are to go. Those desiring the strawberry premiums will please name the fact when sending in subscribers, that their names may be put down for that purpose, and they may feel assured that they will be liberally dealt with—at least as well as in the strawberry distribution so acceptable last year.

Grape Vine Premiums.—We have about 2000 Delaware and Concord Grape Vines now planted out and growing finely, all of which we can well use on our own grounds. But as we have made it a point to raise the subscription list to the highest possible limit before the middle of the volume, we still offer to send one of these vines in Autumn (safely packed, and carriage prepaid) to any one who will during *this* month (June) procure a new subscriber for 1863 at $1. The vines will be sent at the proper time in Autumn, when they will have had two seasons' growth. (We have distributed 5000 vines this Spring, all of which we hope are doing well.)

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